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THE CINCINNATI ELECTRICAL TOOL CO.

ELECTRIC DRILLS • BUFFERS

The Cincinnati

GRINDERS • AIR MASTERS

CINCINNATI 8, OHIO, U.S.A.

The Cincinnati

TRADE MARK

ELECTRIC DRILLS

SCREW DRIVERS

NUT SETTERS

TAPPERS

ROUTERS

AERIAL GRINDERS

TOOL POST GRINDERS

SPEED LATHES

BENCH AND PEDESTAL BUFFERS

BENCH AND PEDESTAL GRINDERS

ABRASIVE CUT-OFF MACHINES

AIR MASTER DUST COLLECTORS



THE CINCINNATI ELECTRICAL TOOL CO.

DIVISION OF THE R. K. LeBLOND MACHINE TOOL CO.

CINCINNATI 8, OHIO, U. S. A.



TYPES ULS, UAS, UBS, UK

Heavy Duty Ball-Bearing Electric Drills

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

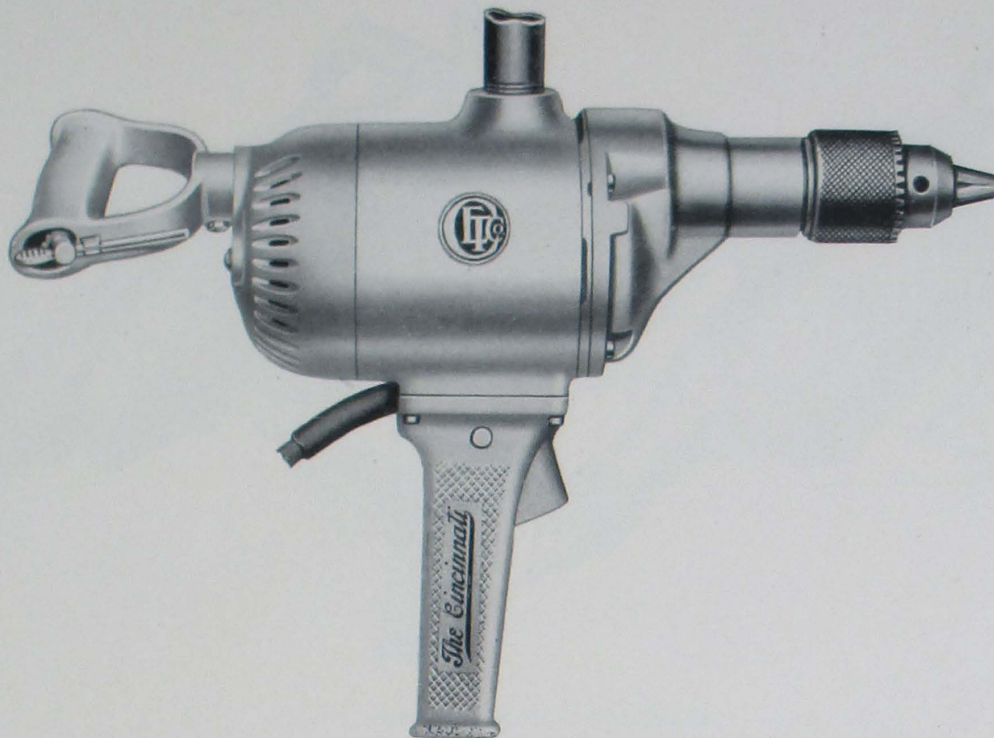
THESE powerful and rugged drills are especially adapted for automobile body work, car building and metal drilling of all kinds. Ideal drills for wood boring, and especially handy for the contractor. Equipped with high-grade ball bearings on the armature shaft and ball thrust bearing on the drill spindle. Gears are of alloy steel, heat-treated, and run in grease-tight compartment. Fully enclosed two-pole self-releasing trigger switch, with locking pin for positive operation.

EQUIPMENT — Rubber-covered three-wire cable, attachment plug and three-jaw screw back chuck.

For extra attachments, see page 10. Drilling stands for above drills shown on page 7.

SPECIFICATIONS

Type	Volts	Drilling Capacity Steel	No Load Speed R. P. M.	Length, Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
ULS	110	1/4"	1800	12 5/16"	6	10	UHLAN
ULS	220	1/4"	1800	12 5/16"	6	10	ULNAR
UAS	110	1/4"	1600	13 1/2"	6 1/2	10	ACACIA
UAS	220	1/4"	1600	13 1/2"	6 1/2	10	ACME
UBS	110	5/16"	1400	13 3/4"	7	10	ACRE
UBS	220	5/16"	1400	13 3/4"	7	10	ACUTE
UK	110	3/8"	1200	14"	8	11	ABODE
UK	220	3/8"	1200	14"	8	11	ADDER



1/2-inch

Standard Duty Ball-Bearing Electric Drill

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

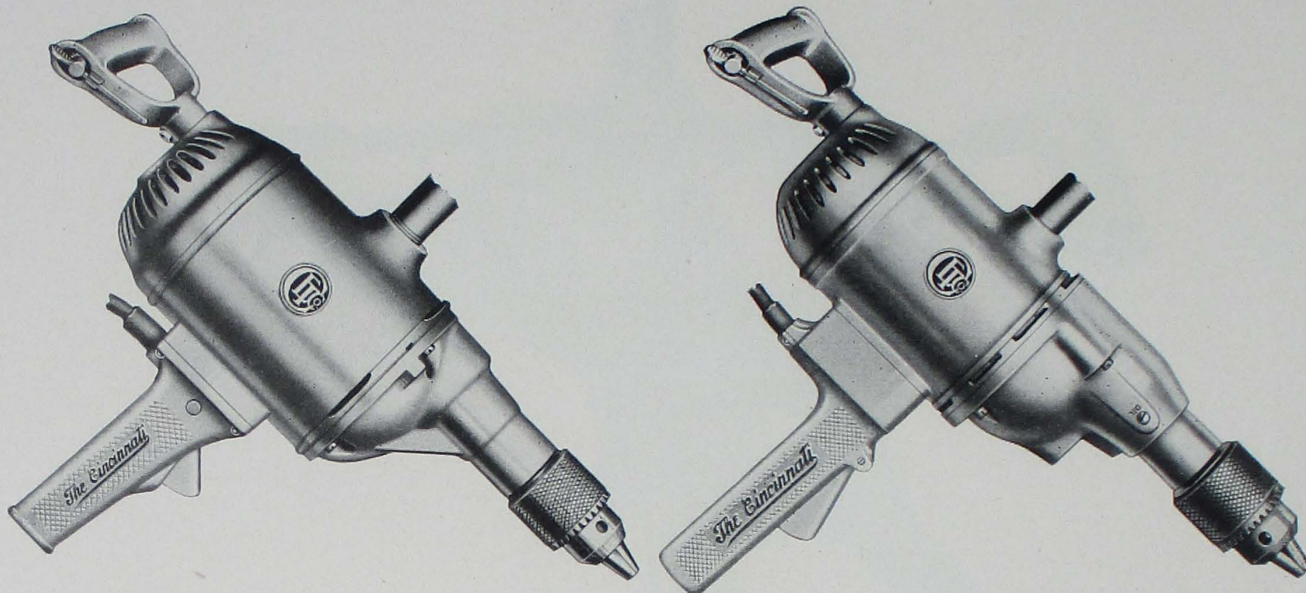
A POWERFUL Drill, particularly adapted for Garages, Service Stations and general maintenance work in industrial plants and small shops of all kinds. An ideal tool for the electrician or general repairman. Gears are of alloy steel, heat-treated and run in grease-tight compartment. High-grade ball bearings on armature shaft. Ball thrust bearing on chuck spindle. Fully enclosed, two-pole self-releasing trigger switch, with locking pin for positive operation.

EQUIPMENT — Rubber-covered three-wire cable, attachment plug, spade handle, with chuck key holder, removable side handle and three-jaw screw back chuck.

For extra attachments, see page 10.
Drilling stands for above drills shown on page 7.

SPECIFICATIONS

Type	Volts	Drilling Capacity Steel	No Load Speed R. P. M.	Length Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
UO	110	1/2"	550	16 1/4"	14	20	ABUSE
UO	220	1/2"	550	16 1/4"	14	20	ABOUND



$\frac{3}{8}$, $\frac{1}{2}$ and $\frac{5}{8}$ -inch Capacities

$\frac{3}{4}$ -inch Capacity

Heavy Duty Ball-Bearing Electric Drills

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

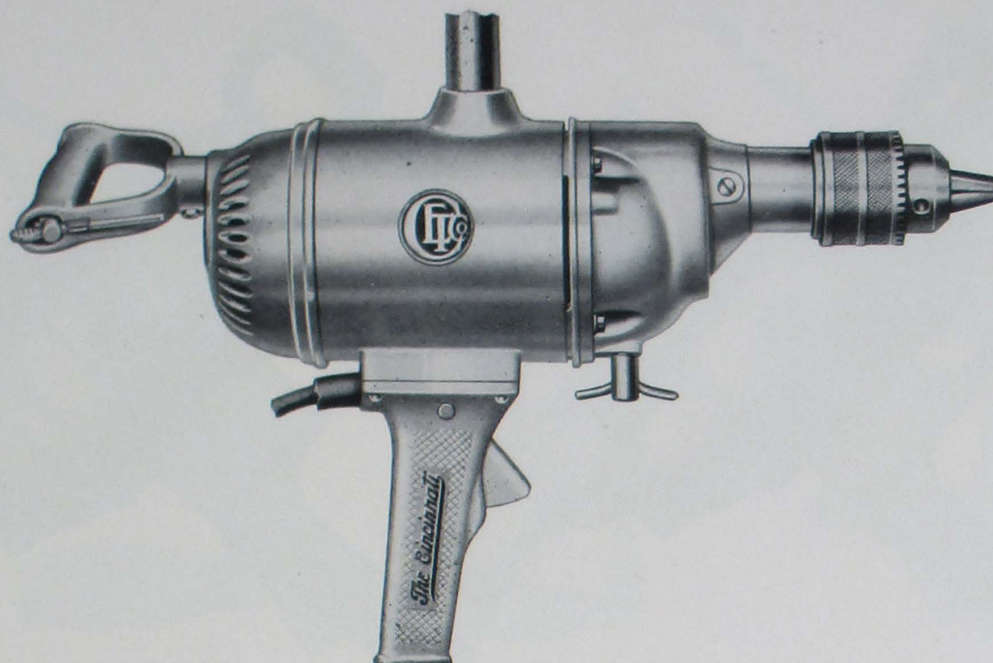
THESE Heavy Duty Drills are particularly adapted for general production work in metal-working industries of all kinds. Rugged design and exceptional power insure long and efficient service for continuous production. Gears are of alloy steel, heat-treated, and run in grease-tight compartment. High-grade ball bearings on armature shaft. Ball thrust bearing on chuck spindle. Fully enclosed, two-pole self releasing trigger switch, with locking pin for positive operation.

EQUIPMENT — Rubber-covered three-wire cable, attachment plug, spade handle, with chuck key holder, removable side handle and three-jaw screw back chuck.

For extra attachments, see page 10.
Drilling stands for above drills shown on page 7.

SPECIFICATIONS

Type	Volts	Drilling Capacity Steel	No Load Speed R. P. M.	Length Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
UT	110	$\frac{3}{8}$ "	800	16"	14	20	ABOUT
UT	220	$\frac{3}{8}$ "	800	16"	14	20	ABSENT
UH	110	$\frac{1}{2}$ "	550	17"	17	25	ABET
UH	220	$\frac{1}{2}$ "	550	17"	17	25	ACCORD
UE	110	$\frac{5}{8}$ "	450	17 $\frac{1}{2}$ "	19	30	ABACK
UE	220	$\frac{5}{8}$ "	450	17 $\frac{1}{2}$ "	19	30	ABIDE
UW	110	$\frac{3}{4}$ "	425	21 $\frac{1}{4}$ "	28	45	ACATE
UW	220	$\frac{3}{4}$ "	425	21 $\frac{1}{4}$ "	28	45	AGENT



$\frac{1}{2}$ and $\frac{5}{8}$ -inch Capacities

Heavy Duty Syncro-Mesh Two Speed Drills

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

HUSKY ball-bearing two-speed drills, the last word in portable tools for general maintenance, as well as production work, where a wide size range of drilling is required. Syncro-mesh gearing permits speed changes, while motor is running, by merely shifting speed-change lever — no clashing of gears possible.

These drills, when used in connection with the stands, as shown on page 7, have all of the advantages of a portable two-speed drill press.

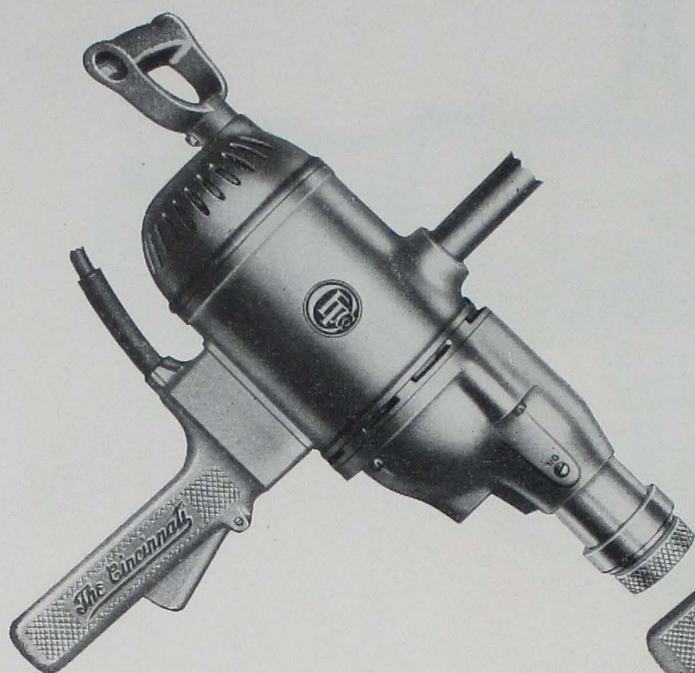
Gears are of special alloy steel, heat-treated and run in grease-tight compartment. The armature is mounted on deep-groove ball bearings, with ball thrust bearing on spindle. Equipped with fully-enclosed two-pole self releasing trigger switch, with locking pin for positive operation.

Equipment — Rubber-covered three-wire cable, attachment plug, spade handle with chuck key holder, removable side handle and three-jaw screw back chuck.

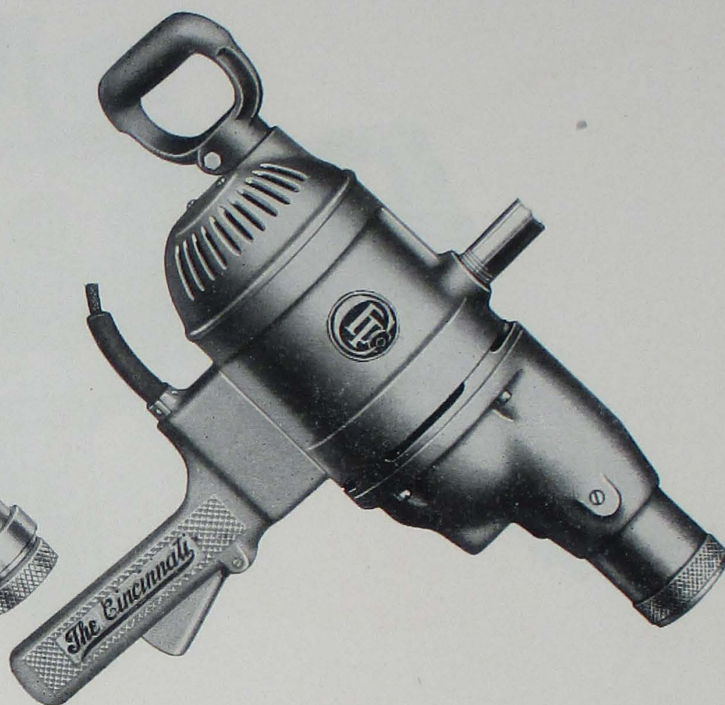
For extra attachments, see page 10.
Drilling stands for above drills shown on page 7.

SPECIFICATIONS

Type	Volts	Drilling Cap. Steel	No Load Speed R. P. M.	Length Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
UD	110	$\frac{1}{2}$ "	550-800	18"	19	25	ALONG
UD	220	$\frac{1}{2}$ "	550-800	18"	19	25	ABBEY
UED	110	$\frac{5}{8}$ "	500-750	18 $\frac{1}{4}$ "	20	28	ADRIFT
UED	220	$\frac{5}{8}$ "	500-750	18 $\frac{1}{4}$ "	20	28	ADVERB



7/8-inch Capacity



1 and 1 1/4-inch Capacities

Heavy Duty Ball-Bearing Electric Drills

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

POWERFUL, sturdy and compact heavy-duty drills, especially built for heavy drilling in structural steel boiler plate, ship-building and heavy machine-shop drilling of all kinds. Gears are of alloy steel, heat-treated and run in grease-tight compartment. Deep-groove radial ball bearings on armature shaft; ball thrust bearing on spindle.

Equipped with a fully enclosed two-pole self releasing trigger switch.

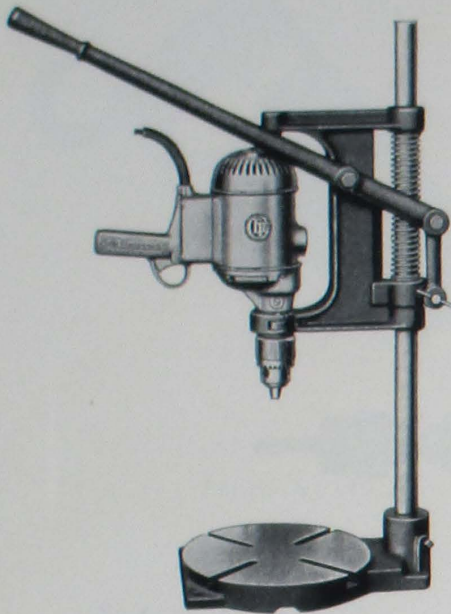
Equipment for Type UN — Rubber-covered three-wire cable, attachment plug, spade handle and removable side handle.

Equipment for Types UP and UG — Rubber-covered three-wire cable, attachment plug, spade handle, feed screw and removable side handle.

For extra attachments, see page 10.
Drilling stands for above drills shown on page 7.

SPECIFICATIONS

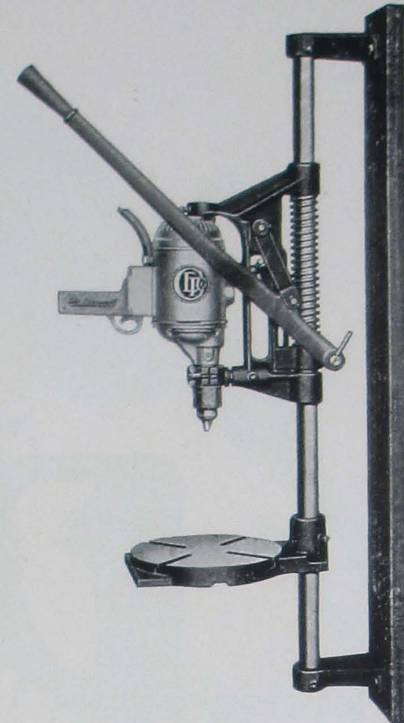
Type	Volts	Drilling Capacity Steel	No Load Speed R. P. M.	Taper Socket	Length, Overall	Net Weight, Pounds	Shipping Weight Pounds	Code Word
UN	110	7/8"	410	No. 2	18"	25	45	LEGION
UN	220	7/8"	410	No. 2	18"	25	45	LEASE
UP	110	1"	335	No. 3	19 1/2"	32	53	UKASE
UP	220	1"	335	No. 3	19 1/2"	32	53	UMBER
UG	110	1 1/4"	290	No. 3	20"	35	55	URGE
UG	220	1 1/4"	290	No. 3	20"	35	55	USHER



No. 12 Bench Drill Stand
For Use With
"The Cincinnati"
Types UT and UO Drills only



No. 00 Bench Drill Stand
For Use With
"The Cincinnati" Drills
 $\frac{1}{2}$ " to $1\frac{1}{4}$ " Capacity
*SEE NOTE BELOW



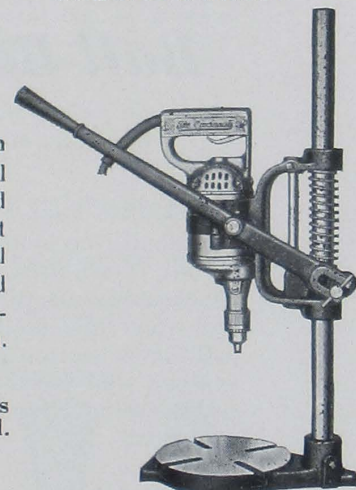
No. 00W Post Drill Stand
For Use With
"The Cincinnati" Drills,
 $\frac{1}{2}$ " to $1\frac{1}{4}$ " Capacity
*SEE NOTE BELOW

Bench and Post Drill Stands

THESE Drilling Stands have been designed for use with THE CINCINNATI Electric Drills from $\frac{1}{4}$ " to $1\frac{1}{4}$ " capacity. The drill supporting bracket can be set at any point on the column and raised or lowered as desired. The weight of the drill and supporting bracket is counterbalanced through the spring on the column. The Electric Drill is locked or released in the bracket by means of a hinged clamp and thumb-screw (no tools required). Depth of holes to be drilled is regulated by an adjustable stop on the column. Lever feed with quick return.

*The OO and OOW Drill Stands are furnished with one of the adaptors listed below as standard equipment. Please specify the adaptor required.

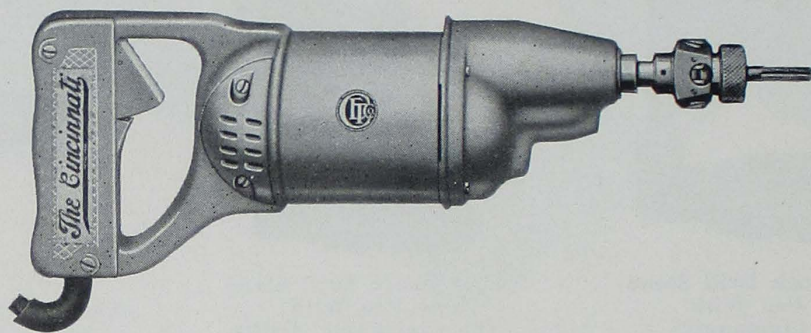
ADAPTOR "A" FOR USE WITH TYPES UT-UO
ADAPTOR "B" FOR USE WITH TYPES UH-UE-UD-UED
ADAPTOR "C" FOR USE WITH TYPES UW-UN
ADAPTOR "D" FOR USE WITH TYPES UP-UG



No. 10—DRILL STAND for use with
Types ULS, UAS, UBS, UK Drills
N1 and N2 Screw Drivers and
UJ Tapper.
Cannot be used with $\frac{1}{4}$ "
Junior drill.

GENERAL SPECIFICATIONS

	No. 10	No. 12	No. 00	No. 00W
Height of Column.....	24"	30"	38"	38"
Diameter of Column.....	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "
Distance from center of Column to Center of Drill Bit..	$5\frac{3}{4}$ "	7"	7"	7"
Feed Travel.....	3"	4"	5"	5"
Maximum Distance from Base to Drill Chuck.....	14"	$13\frac{3}{4}$ "	18"	14"
Size of Base.....	7" x $10\frac{3}{4}$ "	10" x 13"	10" x 13"	8" Dia.
Net Weight.....	23 lbs.	40 lbs.	45 lbs.	60 lbs.
Shipping Weight.....	38 lbs.	60 lbs.	75 lbs.	105 lbs.
Code Word.....	RACE	RABID	RANGER	RAPIER



Ball-Bearing Tapping Machine

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

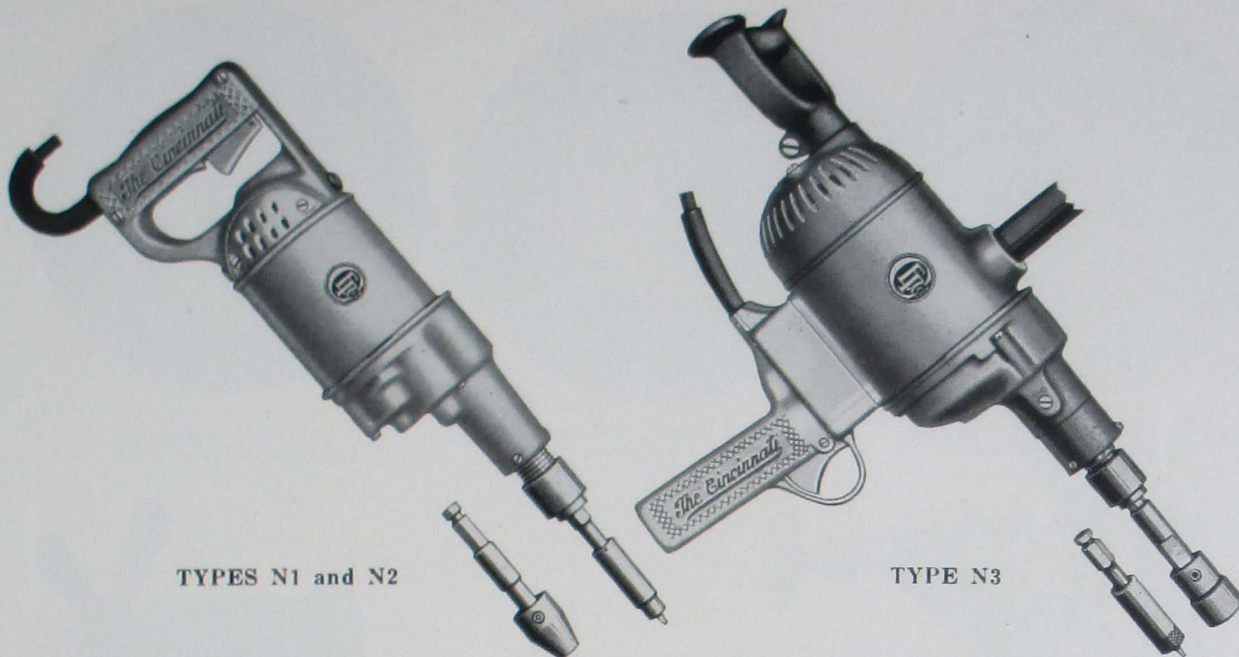
ELECTRIC Tapper especially designed for speeding up tapping jobs in sheet metal plants, locomotive shops, ornamental iron works, car builders, also for fitting aprons, splash pans, etc., on machine tools. No reversing switch is necessary, as the chuck automatically reverses at nearly twice the forward speed with a backward pull when the hole is tapped. The armature shaft is mounted on ball bearings and a ball thrust bearing is also provided to take the thrust load. The gears are a special analysis alloy steel, heat-treated and run in a grease-tight compartment. A two-pole self-releasing trigger switch with locking pin for positive operation is standard equipment.

EQUIPMENT—Rubber-covered three-wire cable, attachment plug and a special chuck for holding taps.

No. 10 Bench Drill Stand as shown on page 7 can be used with this tool.

SPECIFICATIONS

Type	Volts	Capacity, Cast Iron	Capacity, Steel	Capacity, Brass and Alum.	Forward Speed	Reverse Speed	Length, Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
UJ	110	$\frac{3}{8}$ " Tap	$\frac{1}{4}$ " Tap	$\frac{3}{8}$ " Tap	350 R.P.M.	500 R.P.M.	14"	8 $\frac{1}{2}$	11	BADGE
UJ	220	$\frac{1}{2}$ " Tap	$\frac{3}{4}$ " Tap	$\frac{1}{2}$ " Tap	350 R.P.M.	500 R.P.M.	14"	8 $\frac{1}{2}$	11	BAGGY



TYPES N1 and N2

TYPE N3

Electric Screw Drivers and Nut Setters

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

A POWERFUL tool for speeding up production in manufacturing plants of all kinds wherever there are screws to be driven or nuts to set. Equipped with positive clutch on the spindle, which disengages instantly when forward pressure on the tool is relieved. The alloy steel gears are heat-treated and run in grease-tight compartment. High-grade ball bearings. Ball thrust bearing on spindle. Fully enclosed two-pole self-releasing trigger switch, with locking pin for positive operation.

N1 is suitable for driving wood screws up to No. 12, 2" long; lag screws up to $\frac{3}{8}$ ", 3" long; nuts on bolts up to $\frac{1}{4}$ " diameter.

N2 is suitable for driving wood screws up to No. 16, $3\frac{1}{4}$ " long; lag screws up to $\frac{5}{8}$ ", 4" long; nuts on bolts up to $\frac{3}{8}$ " diameter.

N3 is suitable for driving wood screws up to No. 20, 4" long; lag screws up to $\frac{3}{4}$ ", $4\frac{1}{2}$ " long; nuts on bolts up to $\frac{1}{2}$ " diameter.

EQUIPMENT — Rubber-covered three-wire cable, attachment plug, two screwdriver bits with centering sleeves (or one socket wrench as selected).

Reversing switch for backing out screws, nuts or bolts furnished if desired. See price sheet.

No. 10 Bench Drill Stand shown on page 7 can be used with Types N1 and N2.

No. 00 Bench Drill Stand as shown on page 7 can be used with Type N3.

ACCESSORIES FOR SCREW DRIVERS AND NUT SETTERS



Screw Driver Bit

Centering Sleeve Socket Adapter for Hexagon or Square Sockets

Square Socket

Hexagon Socket

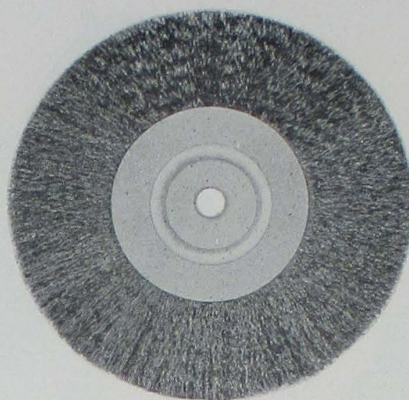
When ordering sockets, specify whether hexagon or square and give dimension across flat of nut.

SPECIFICATIONS

Type	Volts	No Load Speed R. P. M.	Length, Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
N 1	110	450	13 $\frac{3}{4}$ "	7	11	NABOB
N 1	220	450	13 $\frac{3}{4}$ "	7	11	NADIR
N 2	110	370	13 $\frac{3}{4}$ "	8	12	NAG
N 2	220	370	13 $\frac{3}{4}$ "	8	12	NATIVE
N 3	110	350	14 $\frac{1}{2}$ "	13	21	NECTAR
N 3	220	350	14 $\frac{1}{2}$ "	13	21	NEST



SEWED RAG BUFFING WHEELS
For sizes, see price sheet.



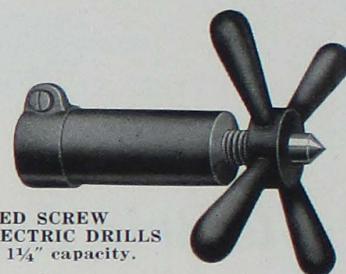
WIRE WHEEL BRUSHES
For sizes, see price sheet.



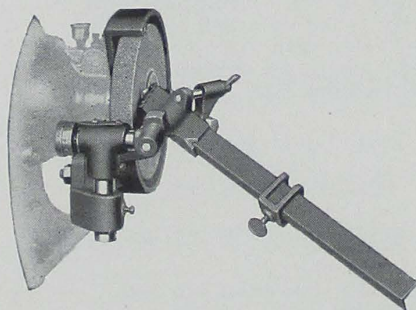
GRINDING WHEELS
For sizes, see price sheet.



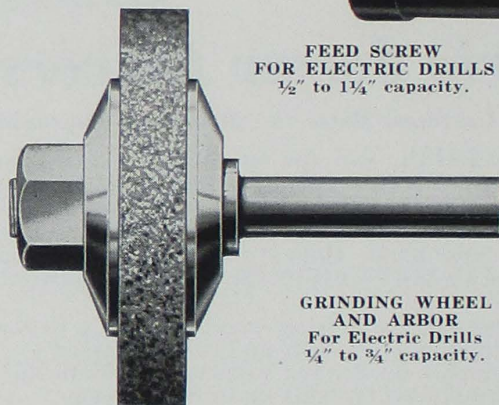
GRINDING OUTFIT
For Types ULS, UAS, UBS, UK Drills.



**FEED SCREW
FOR ELECTRIC DRILLS**
 $\frac{1}{2}$ " to $1\frac{1}{4}$ " capacity.



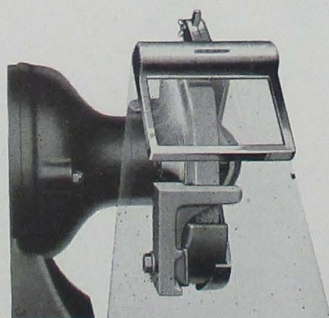
TWIST DRILL GRINDING ATTACHMENT
For grinding accurately and quickly straight and taper shank twist drills up to $1\frac{1}{4}$ " diameter. When ordering, give Type and serial number of grinder with which attachment is to be used, so that proper adaptor may be furnished. We cannot furnish adaptors for grinders, of other than our own manufacture.



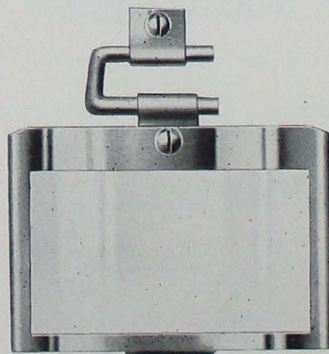
**GRINDING WHEEL
AND ARBOR**
For Electric Drills
 $\frac{1}{4}$ " to $\frac{3}{4}$ " capacity.



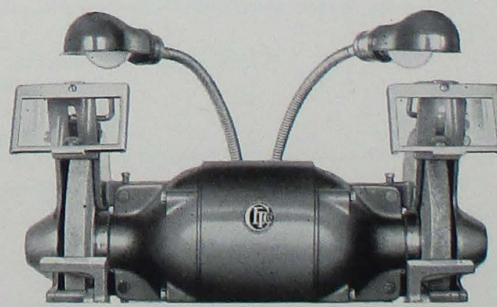
CHUCK WITH MORSE TAPER ARBOR
 $\frac{1}{2}$ " chuck with No. 2 or No. 3 Arbor
 $\frac{5}{8}$ " chuck with No. 2 or No. 3 Arbor
 $\frac{3}{4}$ " chuck with No. 2 or No. 3 Arbor



**ILLUMINATED SHATTERPROOF
EYE-SHIELD**



**SHATTERPROOF
GLASS EYE-SHIELD**



FLEXIBLE LIGHT ARM
Furnished singly, for small grinders or in pairs for larger units.



TYPES LN and BN



TYPE HN

Ball-Bearing Sanding and Polishing Machines

Universal Motor for Direct or Alternating Current, 25 to 60 Cycles.

TYPE LN Sanding Machine is the ideal light-weight tool for general maintenance and production jobs.

TYPE BN Sanding Machine designed primarily to meet the demand for a high speed heavy duty tool for sanding and finishing shops.

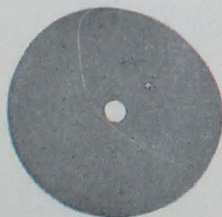
TYPE HN Sanding and Polishing Machine is a flexible and efficient polishing and grinding device. Great labor-saver in auto body repair and paint shops, boat-building and repair shops for sanding hulls, etc., paper mills and other industrial plants for grinding, sanding and cleaning jobs of various kinds.

EQUIPMENT—1 flexible backing pad, 6 abrasive discs, 2 each, coarse, medium and fine grit; rubber-covered 3-wire cable and attachment plug.

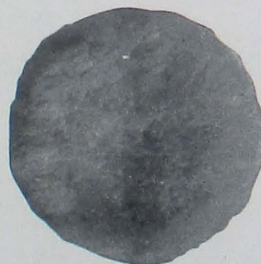
SPECIFICATIONS

Type	Volts	Load Speed R. P. M.	Diameter Abrasive Disc	Diameter Flexible Backing Pad	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
LN	110	5000	7"	7"	9½	15	HADES
LN	220	5000	7"	7"	9½	15	HAUNCH
BN	110	5000	7"	7"	11	21	HABIT
BN	220	5000	7"	7"	11	21	HAIL
HN	110	3500	9¼"	8¾"	13½	30	HEIR
HN	220	3500	9¼"	8¾"	13½	30	HELVE

Attachments for Sanding and Polishing Machines



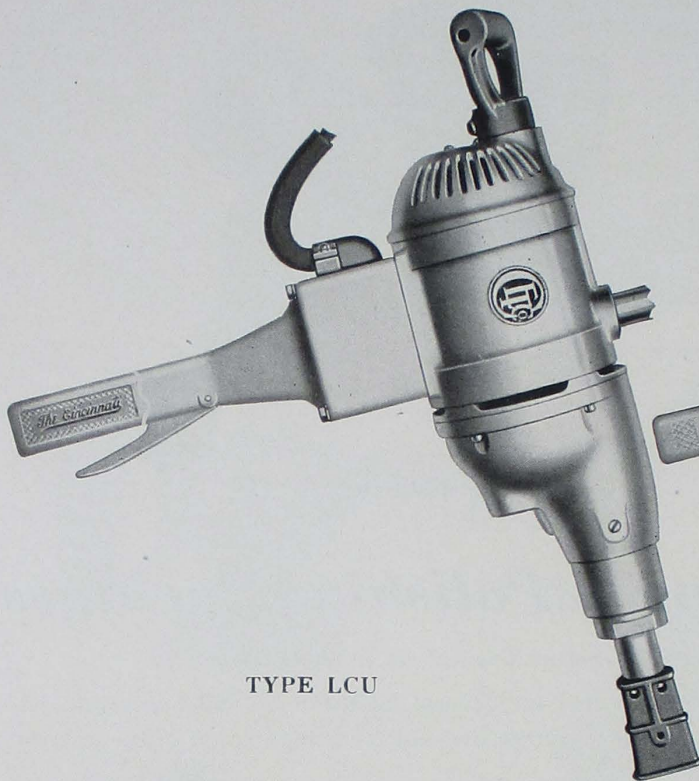
Abrasive disc for sanding or grinding.



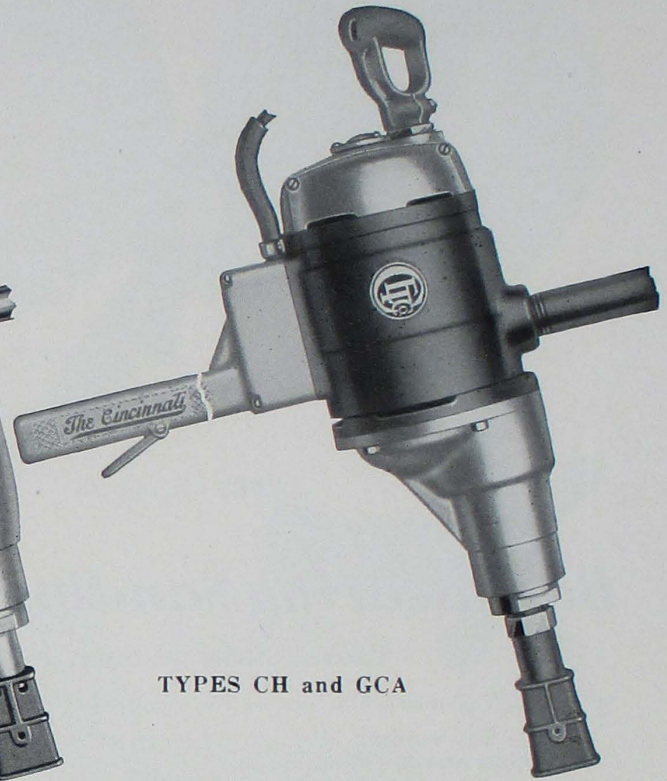
Lamb's wool bonnet for final buffing of lacquer. Fits over flexible pad.



Wire cup wheel for cleaning rust and scale.



TYPE LCU



TYPES CH and GCA

“One-Man” Ball-Bearing Electric Coal Drills

A LIGHT-WEIGHT, powerful drill, suitable for operation by one man with or without the use of a mounting. This drill is adaptable for drilling in soft and free-drilling coal, and also in low-vein work where the working space is limited. Gears are of vanadium alloy steel, heat-treated and hardened. Armature shaft is mounted on ball bearings, with ball thrust bearing on chuck spindle to carry thrust load. Fully enclosed automatic self-releasing 2-pole switch is conveniently located in handle. A flat taper chuck is regularly provided for holding coal augers, but a square socket can be furnished, if desired. The Type LCU is equipped with universal motor for operation on either DC or AC current.

Heavy Duty Ball-Bearing Electric Coal Drills

A VERY powerful heavy duty drill, built to handle practically all shot hole drilling in both bituminous and anthracite coal; suitable for operation mounted or unmounted, by either one or two men. Gears are of vanadium alloy steel, heat-treated and hardened, and are mounted on ball bearings. The armature also runs on ball bearings, and a ball thrust bearing on the chuck spindle provides for end thrust. An automatic self-releasing 2-pole switch is conveniently located in one side handle. A flat taper chuck is regularly provided for holding coal augers, but a square socket can be furnished if desired. The Type CH Drill is furnished for operation on direct current only. The Type GCA Drill is furnished for operation on alternating three-phase current only.

EQUIPMENT — Rubber-covered three-wire cable, attachment plug, ground clamp, coal auger socket, back handle and removable side handle. Breast-plate will be furnished instead of back handle, if desired.

SPECIFICATIONS

Type	Volts	No Load Speed, R. P. M.	Length, Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
LCU DC and AC	115	330	23 1/2"	38	65	FETLOCK
*LCU DC and AC	220 or 250	330	23 1/2"	38	65	FIDDLE
CH DC	115	500	23 3/4"	48	85	FARRAD
*CH DC	220 or 250	500	23 3/4"	48	85	FAUNA
GCA (Center) AC	220 V. 60 Cy., 3 Ph.	500	22 1/4"	65	95	FENDER
GCA (Drive) AC	440 V. 60 Cy., 3 Ph.	500	22 1/4"	65	95	FENCING

*Specify voltage when ordering



POWERFUL UNIVERSAL AIR-COOLED MOTOR 12,500 R. P. M. DYNAMICALLY BALANCED TO ELIMINATE VIBRATION. HEAVY DUTY BALL BEARINGS CORRECTLY MOUNTED INTO STEEL SLEEVES WITH INNER RACES LOCKED TO ARMATURE SHAFT.

TIGHTENING LEVER LOCKS MOTOR AT ANY POINT.

FULLY ENCLOSED 20 AMPERE SWITCH. PUSH BUTTON INDICATES "ON" AND "OFF". CABLE CONNECTED TO TERMINALS ON SWITCH BLOCK, AND CLAMPED TO ELIMINATE STRAIN.

FIFTEEN INCH DIAMETER OCTAGON GUIDE WHEEL PROVIDES CONVENIENT GRIP AT ANY POSITION. MACHINE WILL NOT ROLL ON BENCH WHEN TILTED ONTO ITS SIDE TO CHANGE BITS OR COLLARS.

REVERSIBLE CAST-IRON SHOE—ONE SURFACE IS PLAIN FOR SLIDING ON WORK OR TEMPLATE. OPPOSITE SURFACE HAS SLOT MILLED TO FIT STEEL TRACK OR BENCH GUIDE. THIS PROVIDES A QUICK SET-UP AND ACCURATE METHOD OF GUIDING ROUTER FOR STRAIGHT CUTS, FLUTING, GROOVING, ETC.

MOTOR COVER EASILY REMOVED TO INSPECT COMMUTATOR, BRUSHES OR FOR LUBRICATION.

VENTILATION INTAKE ON SIDE OF MOTOR COVER ARRANGED TO PREVENT SAWDUST ENTERING WINDINGS.

DEPTH STOP GAUGE GRADUATED BY 1/16 THS TO SET ROUTER BIT FOR ANY DEPTH OF CUT. A QUICK ADJUSTMENT SOLVING THE PROBLEM OF WORK REQUIRING EXTREME ACCURACY SUCH AS INLAY ROUTING, FLUTING, SUNKEN PANELS, ETC.

KNURLED HAND WHEEL OPERATES RACK AND PINION FEED TO RAISE AND LOWER MOTOR TO DESIRED POSITION. THIS PROVIDES RAPID AND POSITIVE CONTROL OF ROUTER WHEN LOWERING CUTTER INTO WORK. IDEAL FOR INLaid OR CUT-OUT ROSETTES, FLUTING, BORING, ETC.

STOP PIN RELEASE ALLOWS FREE MOVEMENT OF MOTOR IN SLIDEWAY FOR ROUTING CONCAVE OR CONVEX SURFACES.

STATIONARY GUIDE COLLARS SLIP INTO HOLDER AND ARE HELD BY SET SCREW. STEEL GUIDE COLLARS OF ANY DIAMETER CAN BE FURNISHED.

CHUCK IS MOUNTED ON ARMATURE SHAFT AND DESIGNED TO TAKE STRAIGHT SHANK BITS. THIS TYPE OF CHUCK REDUCES THE DISTANCE BETWEEN ROUTER BIT AND LOWER BEARING TO A MINIMUM.

PATENTED

Portable Electric Router

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles

"THE CINCINNATI" Portable Electric Router now performs a multitude of operations which were formerly done at higher costs, either by hand or on expensive cumbersome machinery. Such operations include:

Stair routing, grille cutting, rosette cutting, inside shaping, fluting, paneling, splining, mortising, dove-tailing, boring, lining for two-tone work, routing for inlay work, cutting openings in slab doors, solid blinds, etc.

"THE CINCINNATI" Router is the only one providing both a rapid and positive method of lowering the cutter into the work.

No tedious depth adjustments with a rule are necessary. The adjustable stop, graduated to one-sixteenth inch, is set with a twist of the wrist. It is absolutely accurate in its action, while the scale is enlarged for easy reading.

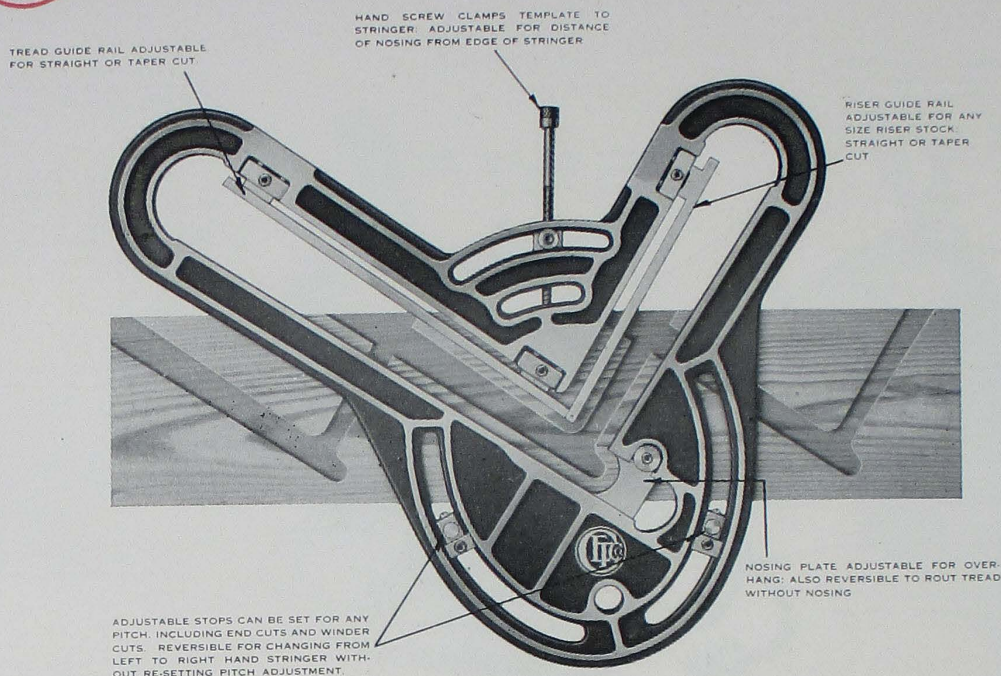
The exceptionally high speed of 12,500 r. p. m. of "THE CINCINNATI" Router insures a clean cut in any direction, requiring no hand finishing.

"THE CINCINNATI" Portable Electric Router is furnished complete, as illustrated, with one 3/4-inch straight shank, high speed steel, 2° taper, stair routing bit, or the equivalent in standard or special bits, one each 1/4-inch and 1/2-inch split collets, for holding 1/4-inch and 1/2-inch straight shank bits, one guide collar, for 1 1/8-inch tread stock, unless otherwise ordered, two wrenches, one grinding pencil and rubber-covered cable with attachment plug.

For Stair Routing Template and Accessories, see pages 14 and 15.

SPECIFICATIONS

Type	Volts	H.P.	Speed	Vertical Travel	Size of Base	Net Weight	Shipping Weight Pounds	Code Word
BR	110	3/4	12500	5"	9"	30	50	ALTER
BR	220	3/4	12500	5"	9"	30	50	ALUM



“The Cincinnati” Stair Routing Template

“THE CINCINNATI” adjustable Stair Routing Template is designed to route stair stringers for any size tread from $\frac{1}{8}$ -inch to 2 inches and any size riser from $\frac{3}{4}$ -inch to $1\frac{1}{8}$ inches, straight or taper cuts, right or left-hand, any pitch.

The nosing may be cut any distance from edge of stringer from $\frac{1}{2}$ -inch to $3\frac{1}{2}$ inches. The Template is furnished with a metal nosing plate, half-round and adjustable for overhangs of $1\frac{1}{8}$ inches to $1\frac{3}{4}$ inches. It is reversible for routing treads without nosings. The Template is also so designed that the customer can make any special nosing plates needed of hard wood, if he so desires.

The standard stair routing bits are $\frac{3}{4}$ inches in diameter (2° taper) the difference in thickness of tread being taken care of by the use of different size guide collars. With this design it is necessary to use but one size of bit or nosing plate.

Changing from left to right-hand stringer, or vice versa, is accomplished within a few seconds by merely removing the screw clamp and replacing same on opposite side of Template, as well as loosening the set screws which hold the stops and pushing the latter thru to the opposite side. It is not necessary to reset the pitch adjustment when hanging from left to right on a pair of stringers. This saves time and eliminates errors.

The combination of screw clamp and adjustable stops provide a perfect three-point bearing which rigidly holds the Template to the stringer at all times. Slippage is impossible with this design.

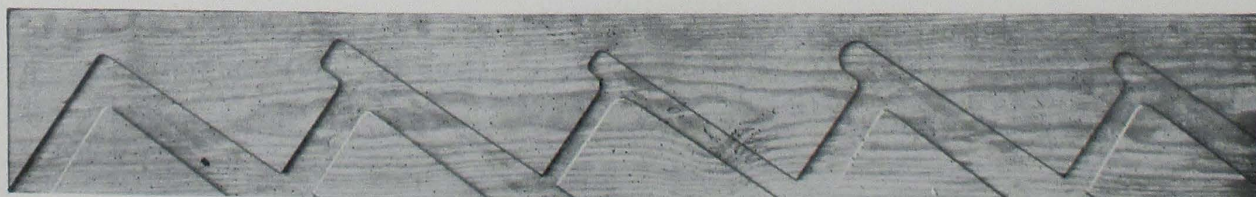
SPECIFICATIONS

“THE CINCINNATI” Stair Routing Template is machined on both sides to secure a smooth surface and maintain uniform thickness.

Net weight50 lbs.
Shipping weight75 lbs.
Length riser opening18 inches

Length tread opening24 inches
Guide rail taper adjustment.... $\frac{1}{2}$ -inch in 10 inches
Telegraphic Code WordBeam

Stair Stringer, showing types of nosings, risers and treads which can be made with
“THE CINCINNATI” Router and Stair Routing Template





Accessories for Type BR Router

HIGH SPEED STEEL BITS



Straight Router Bits have $\frac{1}{2}$ -inch diameter shank, with cutting edge $1\frac{1}{4}$ inches long. Bits up to $\frac{3}{4}$ -inch diameter inclusive, suitable for boring.

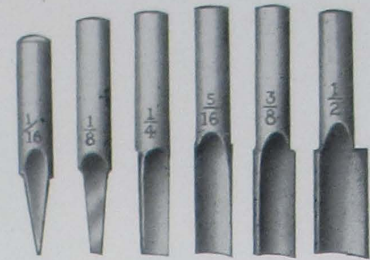
Standard sizes
 $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", $1\frac{1}{8}$ ", $1\frac{1}{4}$ ", $1\frac{1}{2}$ ".

Special sizes to order, prices on application.
For bits with $\frac{1}{2}$ " threaded shanks, for old model routers, see price sheet.



Standard $\frac{3}{4}$ -inch Stair Routing Bit. 2° Taper. Not suitable for boring operations.

For bits with $\frac{1}{2}$ " threaded shanks, for old model routers, see price sheet.



Small Router Bits $\frac{1}{16}$ to $\frac{1}{2}$ -inch by sixteenths with $\frac{1}{4}$ -inch straight shanks. Suitable for lining, grille work, inlay work, cutout designs, light grooving, etc. (See guide collar below.)

GUIDE COLLARS

The $1\frac{1}{4}$ -inch guide collar, furnished with "THE CINCINNATI" Router as standard equipment, is that which we have found to meet the requirements of the majority of users. However, steel guide collars can be supplied for any size tread stock from $\frac{3}{4}$ -inch to 2 inches.

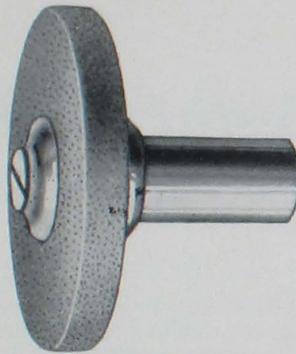
Here again we have designed from the customer's viewpoint, in so arranging the tool that he may turn his own special collars of hardwood if he so desires.



Guide Collar for use with Stair Routing Template.

For $\frac{7}{8}$ ", 1", $1\frac{1}{8}$ ", $1\frac{1}{4}$ " tread stock see price sheet.

For $1\frac{1}{2}$ ", $1\frac{3}{4}$ ", 2" tread stock, see price sheet.



2 x $\frac{1}{4}$ -inch Grinding Wheel with arbor. Straight fits into router chuck.



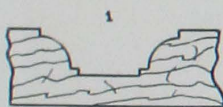
Split Collet for use with draw chuck. $\frac{1}{4}$ and $\frac{1}{2}$ -inch sizes furnished as standard equipment.



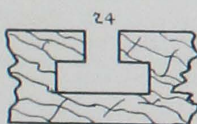
Guide Collar with $\frac{3}{4}$ -inch tip and $1\frac{1}{4}$ -inch opening for use with $\frac{1}{4}$ -inch shank bits.



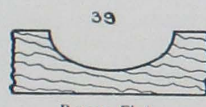
In order to obtain the best results, it is essential that bits be sharp. Grinding Pencils furnished in three sizes: $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ -inch diameters.



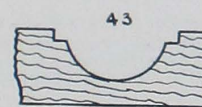
Reverse Rule Joint



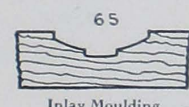
Tee Slot



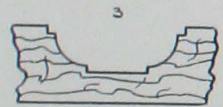
Roman Flute



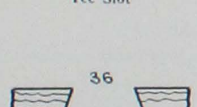
Special Flute



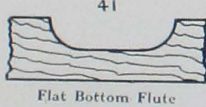
Inlay Moulding



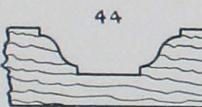
Rule Joint



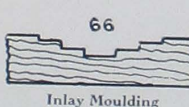
$\frac{1}{2}$ x $\frac{1}{2}$ -inch Dovetail



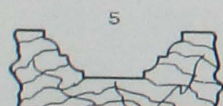
Flat Bottom Flute



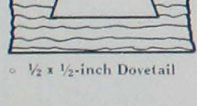
Standard O. G.



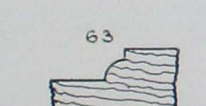
Inlay Moulding



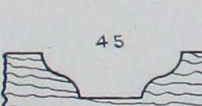
Bead Cove



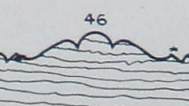
Half-Round Flute



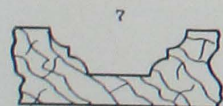
Panel Moulding Flat Bottom



Reverse O. G.



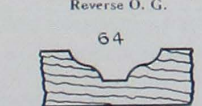
Button Rosette



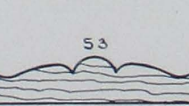
Cove Bead



Panel Moulding Flat Bottom

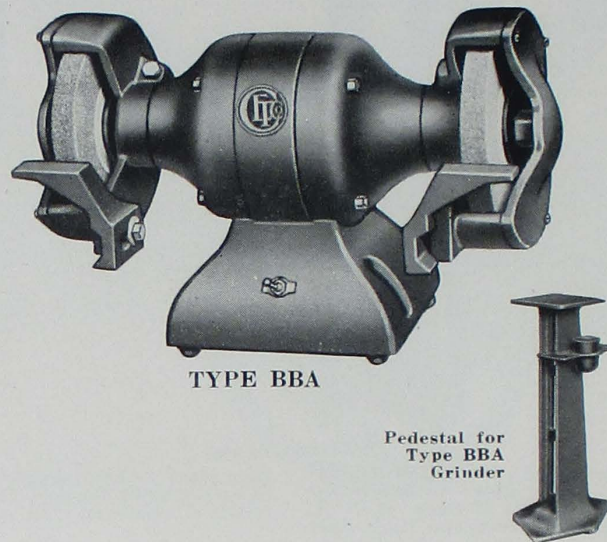


Inlay Moulding



Inlay Rosette

In ordering any of the above special cutters, please furnish sketch showing dimensions of cut to be made. Price on application.



TYPE BBA

Pedestal for
Type BBA
Grinder

6-Inch Bench and Pedestal Grinders

Alternating Current Only

Order by Type and Volts, Giving Cycles and Phase.

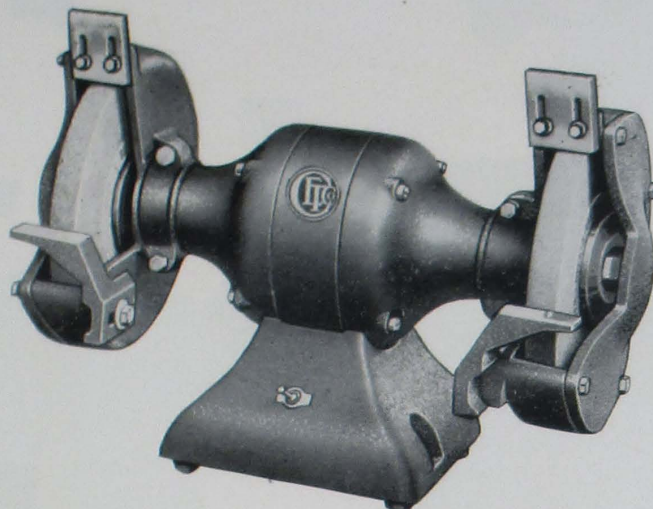
BALL-BEARING Grinders especially designed to meet the demand for practical and serviceable tools for use in garages, repair shops, tool-rooms, etc., for grinding small tools and light castings; also for polishing and buffing. Ball bearings are mounted in dust-proof housings in close proximity to the grinding wheels. The bearings are correctly locked to the shaft to provide end thrust and eliminate wear. A toggle switch is entirely enclosed in the base of the motor. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras.

EQUIPMENT—Two grinding wheels, wheel guards and grinding rests. Rubber-covered cable with attachment plug, furnished on single phase grinders only.

SPECIFICATIONS

Type	Volts	H. P.	Load Speed R. P. M.	Wheel Size	Diameter of Shaft Between Flanges	Distance Bet. Wheels and Height to Cen- ter of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
BBA—Bench	110-60-1	$\frac{1}{2}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	11 $\frac{5}{8}$ "x 6 $\frac{1}{4}$ "	6 $\frac{1}{2}$ "x 7"	45	60	FAITH FATE SERVE SANDY
*BBA—Bench	220-60-1	$\frac{1}{2}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	11 $\frac{5}{8}$ "x 6 $\frac{1}{4}$ "	6 $\frac{1}{2}$ "x 7"	45	60	
PBA—Pedestal	110-60-1	$\frac{1}{2}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	10 $\frac{1}{4}$ "x38"	16" x12"	160	220	
*PBA—Pedestal	220-60-1	$\frac{1}{2}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	10 $\frac{1}{4}$ "x38"	16" x12"	160	220	

*Can also be furnished for 220 or 440 volts, 2 or 3 phase, regular list price.



Pedestal
for 7 and 8-inch
Grinders

7 and 8-Inch Bench and Pedestal Grinders

Alternating Current Only

Order by Type and Volts, Giving Cycles and Phase.

BALL-BEARING GRINDERS especially designed to meet the demand for practical and serviceable tools for use in garages, repair shops, tool rooms, etc., for grinding small tools and light castings; also for polishing and buffing. Ball bearings are mounted in dust-proof housings in closest proximity to grinding wheels. Fully enclosed safety wheel guards, with adjustable grinding rests. Bearings are correctly locked to the shaft to provide end thrust and eliminate shaft wear. Switch is entirely enclosed in the base of the motor. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras, see page 10.

EQUIPMENT—Two grinding wheels, wheel guards and grinding rests. Rubber-covered cable with attachment plug, furnished on single phase grinders only.

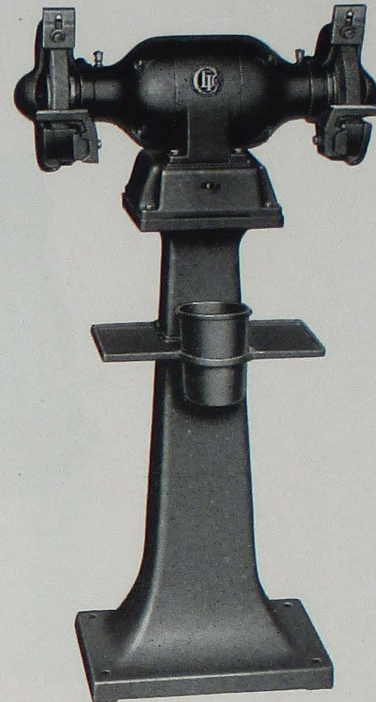
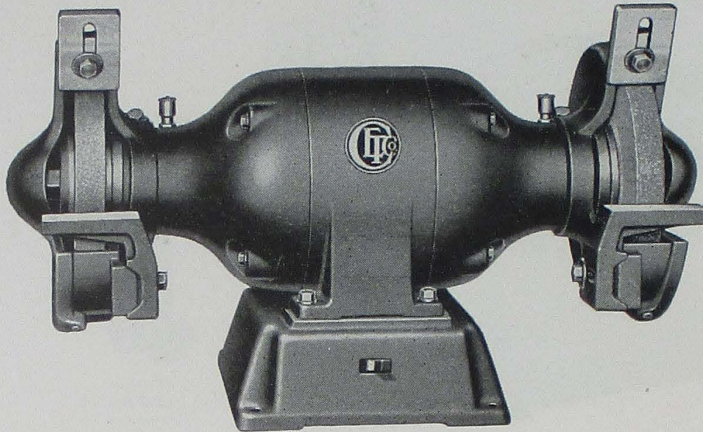
ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Wheel Size	Diameter of Shaft Between Flanges	Distance Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
BSA—Bench	110-60-1	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	13 $\frac{3}{4}$ " x 6 $\frac{1}{4}$ "	6 $\frac{1}{2}$ " x 7"	52	75	FANG
*BSA—Bench	220-60-1	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	13 $\frac{3}{4}$ " x 6 $\frac{1}{4}$ "	6 $\frac{1}{2}$ " x 7"	52	75	FAKIR
VHA—Bench	110-60-1	$\frac{1}{2}$	3450	8"x1"	$\frac{5}{8}$ "	14" x 7"	8"x7"	75	85	FEBRILE
*VHA—Bench	220-60-1	$\frac{1}{2}$	3450	8"x1"	$\frac{5}{8}$ "	14" x 7"	8"x7"	75	85	FECE
PSA—Peds'l	110-60-1	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	13 $\frac{3}{4}$ " x 38"	16"x12"	125	180	SCRUB
*PSA—Peds'l	220-60-1	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	13 $\frac{3}{4}$ " x 38"	16"x12"	125	180	SHORE
VPA—Peds'l	110-60-1	$\frac{1}{2}$	3450	8"x1"	$\frac{5}{8}$ "	14" x 38 $\frac{1}{2}$ "	16"x12"	145	200	FATLING
*VPA—Peds'l	220-60-1	$\frac{1}{2}$	3450	8"x1"	$\frac{5}{8}$ "	14" x 38 $\frac{1}{2}$ "	16"x12"	145	200	FARRIER

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.



8 and 10-inch

Bench and Pedestal Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

POWERFUL Ball-Bearing Grinders with repulsion induction motors, (10" single phase Grinders capacitor type motor) which are safely recommended for grinding of all kinds and for general purpose buffing and polishing. Fully enclosed safety wheel guards with exhaust connections. Grinding rests and spark shields are adjustable to wear of wheels. Ball bearings are mounted in dust-proof housings in closest proximity to grinding wheels. They are correctly locked to the shaft to provide end thrust and eliminate shaft wear. Two-pole starting switch is entirely enclosed in the base of the motor. Shatterproof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras, see page 10.

EQUIPMENT—Two grinding wheels, wheel guards and grinding rests.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Wheel Size	Diam. Shaft Bet. Flanges	Distance Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
BHA-Bench	110-60-1	1/2	3400	8" x 1"	5/8"	18" x 7 1/4"	10" x 9"	120	160	FLORAL
*BHA-Bench	220-60-1	1/2	3400	8" x 1"	5/8"	18" x 7 1/4"	10" x 9"	120	160	FLORET
BLA-Bench	110-60-1	1	1750	10" x 1"	3/4"	18" x 7 1/4"	10" x 9"	145	190	FAGIN
*BLA-Bench	220-60-1	1	1750	10" x 1"	3/4"	18" x 7 1/4"	10" x 9"	145	190	FAMA
FHA-Peds'l	110-60-1	1/2	3400	8" x 1"	5/8"	18" x 39"	16" x 12"	210	315	HANSON
*FHA-Peds'l	220-60-1	1/2	3400	8" x 1"	5/8"	18" x 39"	16" x 12"	210	315	HANDY
FLA-Peds'l	110-60-1	1	1750	10" x 1"	3/4"	18" x 39"	16" x 12"	260	330	FANAR
*FLA-Peds'l	220-60-1	1	1750	10" x 1"	3/4"	18" x 39"	16" x 12"	260	330	FANON

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

BH-Bench	115	1/2	3400	8" x 1"	5/8"	18" x 7 1/4"	10" x 9"	120	160	FLASH
BL-Bench	115	1	1750	10" x 1"	3/4"	18" x 7 1/4"	10" x 9"	150	190	FABRE
BL-Bench	230	1	1750	10" x 1"	3/4"	18" x 7 1/4"	10" x 9"	150	190	FADGE
FH-Pedestal	115	1/2	3400	8" x 1"	5/8"	18" x 39"	16" x 12"	210	315	GRANNY
FL-Pedestal	115	1	1750	10" x 1"	3/4"	18" x 39"	16" x 12"	260	330	FAUM
FL-Pedestal	230	1	1750	10" x 1"	3/4"	18" x 39"	16" x 12"	260	330	FAIK

You should have an AIR MASTER with this Tool, see page 47.

The Cincinnati



TYPE FOA

10-Inch Bench and Pedestal Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

HEAVERY-DUTY GRINDER, with repulsion induction motor, designed to take care of heavy grinding of all kinds and for general purpose buffing and polishing. Ball bearings are mounted in dust-proof housings in closest proximity to grinding wheels. Spindle is of nickel steel and extra heavy. Wheel guards are safety type, equipped with spark breakers, end covers, exhaust connections, and are adjustable to wear of wheels. Grinding rests are also adjustable. Two-pole starting switch is entirely enclosed in the base of the motor. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras, see page 10.

EQUIPMENT—Two grinding wheels, wheel guards and grinding rests. Rubber-covered cable with attachment plug, furnished on single phase grinders only.

ALTERNATING CURRENT SPECIFICATIONS

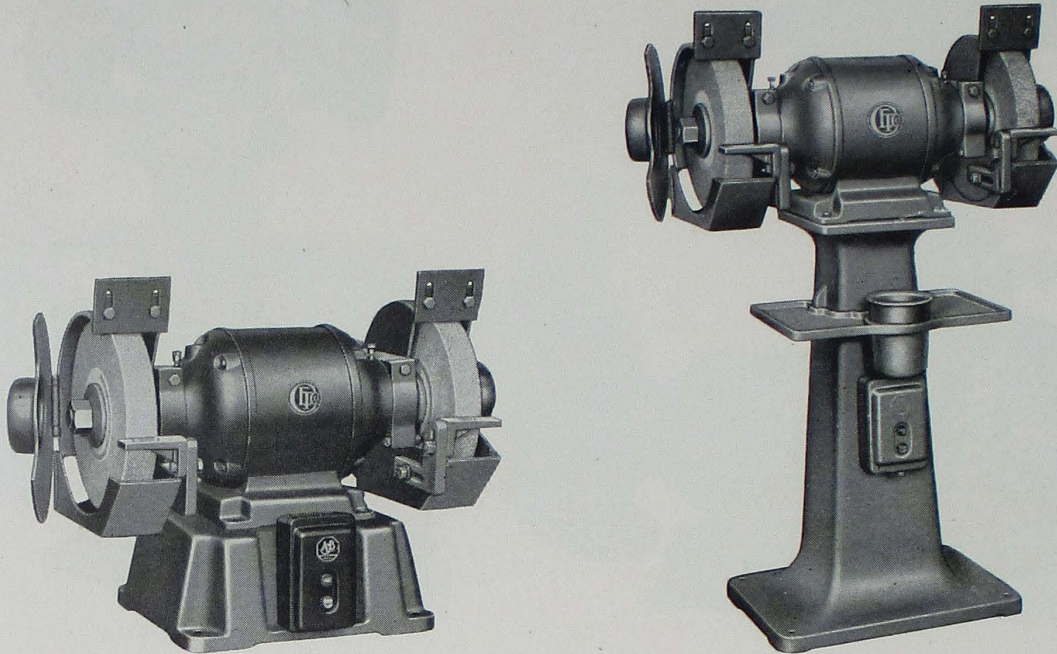
Type	Volts	H. P.	Load Speed R. P. M.	Wheel Size	Diameter Shaft Bet. Flanges	Dist. Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
BOA Bench	110-60-1	1	1750	10" x 1 1/4"	3/4"	17" x 8"	10" x 10"	170	220	FLUID FLUKE HAMMER HAWSER
*BOA Bench	220-60-1	1	1750	10" x 1 1/4"	3/4"	17" x 8"	10" x 10"	170	220	
FOA Peds'l	110-60-1	1	1750	10" x 1 1/4"	3/4"	17" x 39"	20" x 15"	350	415	
*FOA Peds'l	220-60-1	1	1750	10" x 1 1/4"	3/4"	17" x 39"	20" x 15"	350	415	

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.
Speed for 25 cycles, 1500 R.P.M.
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

BO Bench	115	1	1700	10" x 1 1/4"	3/4"	17" x 8"	10" x 10"	170	235	FLATTER FLEXIBLE GLAZE GRAND
BO Bench	230	1	1700	10" x 1 1/4"	3/4"	17" x 8"	10" x 10"	170	235	
FO Peds'l	115	1	1700	10" x 1 1/4"	3/4"	17" x 39"	20" x 15"	350	415	
FO Peds'l	230	1	1700	10" x 1 1/4"	3/4"	17" x 39"	20" x 15"	350	415	

You should have an **AIR MASTER** with this Tool, see page 47.



12 and 14-Inch Bench and Pedestal Grinders

ALTERNATING CURRENT ONLY

Order by Type and Volts, Giving Cycles and Phase.

GENERAL Utility Ball-Bearing Bench and Pedestal Grinders, recommended for general-purpose grinding of all kinds. Wheel guards are fully enclosed safety type, equipped with hinged end covers, spark breakers, exhaust connections, and are adjustable to the wear of the grinding wheels. Ball bearings are mounted in dust-proof housings and are correctly locked to shaft to prevent wear. Magnetic starter, with overload and no-voltage protection is standard equipment. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras, see page 10.

EQUIPMENT — Two grinding wheels, wheel guards and grinding rests.

SPECIFICATIONS

Type	Volts	H. P.	Load Speed R. P. M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
BTA—Bench	220-60-3	2	1750	12"x2"	1 1/4"	20 1/2"	14"	17 1/2"x16"	400	490	HACK HAFT HECTOR HEATH HARPOON HARNESS HELMET HEAP
BTA—Bench	440-60-3	2	1750	12"x2"	1 1/4"	20 1/2"	14"	17 1/2"x16"	400	490	
FTA—Pedestal	220-60-3	2	1750	12"x2"	1 1/4"	20 1/2"	39"	20"x15"	510	600	
FTA—Pedestal	440-60-3	2	1750	12"x2"	1 1/4"	20 1/2"	39"	20"x15"	510	600	
VCA—Bench	220-60-3	3	1750	14"x2 1/2"	1 3/4"	21 1/2"	14"	17 1/2"x16"	475	580	
VCA—Bench	440-60-3	3	1750	14"x2 1/2"	1 3/4"	21 1/2"	14"	17 1/2"x16"	475	580	
FCA—Pedestal	220-60-3	3	1750	14"x2 1/2"	1 3/4"	21 1/2"	39"	20"x15"	585	690	
FCA—Pedestal	440-60-3	3	1750	14"x2 1/2"	1 3/4"	21 1/2"	39"	20"x15"	585	690	

For 2 phase, odd cycles, or 550 volts, mention after code word.

Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

For single phase, see price sheet.

You should have an AIR MASTER with this Tool, see page 47.



12 and 14-inch



18-inch

Ball-Bearing Pedestal Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

HEAVY-DUTY GRINDERS, especially designed and built for continuous production work. Spindle is of nickel steel, extra heavy, and provided with shaft locking device for changing wheels. Ball bearings are mounted in dust-proof housings in closest proximity to grinding wheels, and are correctly locked to the shaft to provide end thrust and eliminate wear. Wheel guards are adjustable, safety type and equipped with hinged doors, exhaust connections, spark breakers and adjustable shatter-proof glass eye shields. Grinding rests are also adjustable. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the pedestal of grinder, push-button station on the motor frame. Twist drill grinding attachment and flexible light arms furnished as extras, see page 10.

Grinding Wheels are not regularly furnished, but can be supplied on order.

For boiler plate wheel guards, see price sheet.

12 and 14-Inch Grinders also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels	Shipping Weight, Pounds	Code Word
HTA	220-60-3	2	1750	12"x2"	1 1/4"	22 1/2"	37 1/2"	25"x20"	500	650	BULLOCK
HTA	440-60-3	2	1750	12"x2"	1 1/4"	22 1/2"	37 1/2"	25"x20"	500	650	BULLY
HCA	220-60-3	3	1750	14"x2 1/2"	1 1/2"	22 1/2"	38"	25"x20"	550	710	BUNDLE
HCA	440-60-3	3	1750	14"x2 1/2"	1 1/2"	22 1/2"	38"	25"x20"	550	710	BUNG
HEA	220-60-3	5	1750	14"x3"	1 1/2"	24 1/2"	38"	25"x20"	600	760	BABER
HEA	440-60-3	5	1750	14"x3"	1 1/2"	24 1/2"	38"	25"x20"	600	760	BABOO
FFA	220-60-3	5	1160	18"x3"	1 1/2"	31"	35"	28"x23"	1085	1240	HARBOR
FFA	440-60-3	5	1160	18"x3"	1 1/2"	31"	35"	28"x23"	1085	1240	HAVOC

Made in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word.

Speed for 25 cycles, 1500 R.P.M.

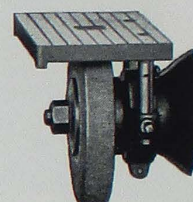
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels	Shipping Weight, Pounds	Code Word
HT	115	2	1750	12"x2"	1 1/4"	22 1/2"	38"	25"x20"	550	700	BULLET
HT	230	2	1750	12"x2"	1 1/4"	22 1/2"	38"	25"x20"	550	700	BULLION
HC	115	3	1750	14"x2 1/2"	1 1/2"	23 1/2"	39"	25"x20"	600	760	BULWARK
HC	230	3	1750	14"x2 1/2"	1 1/2"	23 1/2"	39"	25"x20"	600	760	BUMPER
HE	115	5	1750	14"x3"	1 1/2"	24 1/2"	39"	25"x20"	730	890	BADEN
HE	230	5	1750	14"x3"	1 1/2"	24 1/2"	39"	25"x20"	730	890	BAIRN
FF	115	5	1150	18"x3"	1 1/2"	32 1/2"	35"	28"x23"	1060	1225	HAMLET
FF	230	5	1150	18"x3"	1 1/2"	32 1/2"	35"	28"x23"	1060	1225	HAMPER

You should have an **AIR MASTER** with this Tool, see page 47.

The Cincinnati



Surface Grinding Attachment

12-inch

Combination Wet and Dry Grinder

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, give Cycles and Phase

HEAVY DUTY Combination Wet and Dry Grinder especially designed and built for continuous production work. Wet grinding side has a special hood, splash bowl, water reservoir with settling chamber, adjustable nozzle, valve and centrifugal pump. The pump is driven by a belt from the pulley on the wheel shaft and is so arranged that the bearings are not under water. The splash bowl and reservoir are of one piece and have a capacity of 2½ gallons or more. Spindle is of nickel steel and extra heavy. Ball bearings are mounted in dust-proof housings and correctly locked to the shaft to provide end thrust and eliminate wear. Wheel guard on dry grinding side is safety type, with hinged door, exhaust connection, spark breaker and adjustable shatter-proof eye shield. Tool rests are adjustable. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the base of grinder, push-button station on the motor frame. Twist drill grinding attachment furnished as an extra, see page 10.

Grinding wheels are not regularly furnished, but can be supplied on order. Surface Grinding Attachment, for dry side, can be furnished, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
WTA	220-60-3	2	1750	12" x 2"	1¼"	22¾"	37½"	25"x20"	570	690	TRITE TUNNY TABBY TABOO
WTA	440-60-3	2	1750	12" x 2"	1¼"	22¾"	37½"	25"x20"	570	690	
WGA	220-60-3	3	1750	12" x 2"	1¼"	22¾"	37½"	25"x20"	580	700	
WGA	440-60-3	3	1750	12" x 2"	1¼"	22¾"	37½"	25"x20"	580	700	

Made in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word. Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

WT	115	2	1750	12" x 2"	1¼"	22¾"	38"	25"x20"	665	785	TUMID TURBOT TALE TALUS
WT	230	2	1750	12" x 2"	1¼"	22¾"	38"	25"x20"	665	785	
WG	115	3	1750	12" x 2"	1¼"	22¾"	38"	25"x20"	680	800	
WG	230	3	1750	12" x 2"	1¼"	22¾"	38"	25"x20"	680	800	

You should have an AIR MASTER with this Tool, see page 47.



8 and 10-inch



12 and 14-inch

Wide Type Ball-Bearing Pedestal Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

H EAVY-DUTY GRINDERS, especially adapted for continuous production work. The wide spread between wheels allows maximum accessibility in grinding long and odd-shaped pieces. Spindle is of nickel steel and provided with shaft locking device for changing wheels. Four deep-groove ball bearings are mounted in dust-proof housings and correctly locked to the shaft to provide end thrust and eliminate wear. Wheel guards are of fully enclosed safety type, adjustable to wear of wheels. Grinding rests are also adjustable. Shatter-proof glass eye shields are furnished as standard equipment on 2, 3 and 5 H. P. Grinders only. Eye shields for ½ and 1 H. P. Grinders and flexible light arms, for all sizes, see page 10.

½ and 1 H.P. Grinders furnished with repulsion induction motor for single-phase and two-pole toggle switch.

2, 3 and 5 H.P. Grinders have magnetic starters with overload and no-voltage protection and push-button control.

Grinding Wheels are not regularly furnished with 2, 3 or 5 H.P. Grinders, but can be supplied on order.

For boiler plate wheel guards, see price sheet.

½ and 1 H.P. Grinders also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed R. P. M.	Wheel Size	Diam. Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
WAA	110-60-1	½	3400	8" x 1"	5/8"	29 1/2"	39 1/2"	16" x 12"	220	340	WAD
†WAA	220-60-1	½	3400	8" x 1"	5/8"	29 1/2"	39 1/2"	16" x 12"	220	340	WAG
WBA	110-60-1	1	1750	10" x 1 1/4"	3/4"	31"	40"	20" x 15"	350	500	WALK
†WBA	220-60-1	1	1750	10" x 1 1/4"	3/4"	31"	40"	20" x 15"	350	500	WANE
*WSA	220-60-3	2	1750	12" x 2"	1 1/4"	38"	37 1/2"	25" x 20"	550	700	WADE
*WSA	440-60-3	2	1750	12" x 2"	1 1/4"	38"	37 1/2"	25" x 20"	550	700	WAFER
*WCA	220-60-3	3	1750	14" x 2 1/2"	1 1/4"	38"	38"	25" x 20"	600	750	WAIL
*WCA	440-60-3	3	1750	14" x 2 1/2"	1 1/4"	38"	38"	25" x 20"	600	750	WAFI
*WFA	220-60-3	5	1750	14" x 3"	1 1/4"	42"	38 1/4"	28" x 23"	650	815	WAIN
*WFA	440-60-3	5	1750	14" x 3"	1 1/4"	42"	38 1/4"	28" x 23"	650	815	WAKE

†Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

*Made in 2 or 3 phase only. — For 2 phase, odd cycles, or 550 volts, mention after code word. Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

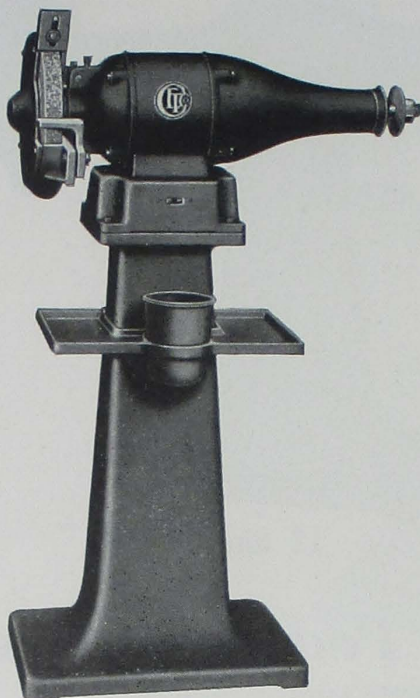
DIRECT CURRENT SPECIFICATIONS

WS	115	2	1750	12" x 2"	1 1/4"	40"	37 1/2"	25" x 20"	610	760	WALL
WS	230	2	1750	12" x 2"	1 1/4"	40"	37 1/2"	25" x 20"	610	760	WASP
WC	115	3	1750	14" x 2 1/2"	1 1/4"	40"	38"	25" x 20"	650	800	WHEELK
WC	230	3	1750	14" x 2 1/2"	1 1/4"	40"	38"	25" x 20"	650	800	WHIC
WF	115	5	1750	14" x 3"	1 1/4"	42"	35"	28" x 23"	850	1025	WHIST
WF	230	5	1750	14" x 3"	1 1/4"	42"	35"	28" x 23"	850	1025	WOLF

You should have an AIR MASTER with this Tool, see page 47.



THE CINCINNATI ELECTRICAL TOOL CO.



8 and 10-inch



12 and 14-inch

BALL-BEARING

Combination Grinders and Buffers

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

THESE Combination Grinders and Buffers offer an unusually wide range of work, as they can be used for grinding and buffing at the same time. Extended spindle can be used with wire, cloth or felt wheels. Wheel guard is fully enclosed safety type, adjustable to the wear of wheel.

$\frac{1}{2}$ and 1 H.P. Grinders furnished with repulsion induction motor for single phase and two-pole toggle switch. Shatter-proof glass eye shield and shaft locking device for changing wheels furnished on 2 and 3 H.P. machines. 2 and 3 H.P. machines equipped with magnetic starter with both overload and no-voltage protection, mounted in the pedestal, push-button station on motor frame. Grinding wheel is not regularly furnished with 2 and 3 H.P. machines, but can be supplied on order. $\frac{1}{2}$ and 1 H.P. sizes also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H.P.	Load Speed, R.P.M.	Wheel Size	Diam. Shaft Bet. Flanges	Distance Between Wheels	Length, Extended Spindle	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
KHA	110-60-1	$\frac{1}{2}$	3525	8"x1"	$\frac{5}{8}$ "	22 $\frac{1}{4}$ "	12"	39 $\frac{1}{2}$ "	16"x12"	195	290	KITTEN
†KHA	220-60-1	$\frac{1}{2}$	3525	8"x1"	$\frac{5}{8}$ "	22 $\frac{1}{4}$ "	12"	39 $\frac{1}{2}$ "	16"x12"	195	290	KNIFE
KRA	110-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	25"	14 $\frac{1}{2}$ "	40"	20"x15"	300	425	KNIGHT
†KRA	220-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	25"	14 $\frac{1}{2}$ "	40"	20"x15"	300	425	KNOLL
*KTA	220-60-3	2	1750	12"x2"	1 $\frac{1}{4}$ "	29"	16"	38"	25"x20"	470	625	KAFTAN
*KTA	440-60-3	2	1750	12"x2"	1 $\frac{1}{4}$ "	29"	16"	38"	25"x20"	470	625	KAGO
*KVA	220-60-3	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	29"	16"	38"	25"x20"	500	650	KID
*KVA	440-60-3	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	29"	16"	38"	25"x20"	500	650	KAMA

†Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

*Made in 2 or 3 phase only. If 2 phase is desired, mention after code word.

Speed for 25 cycles, 1500 R.P.M.

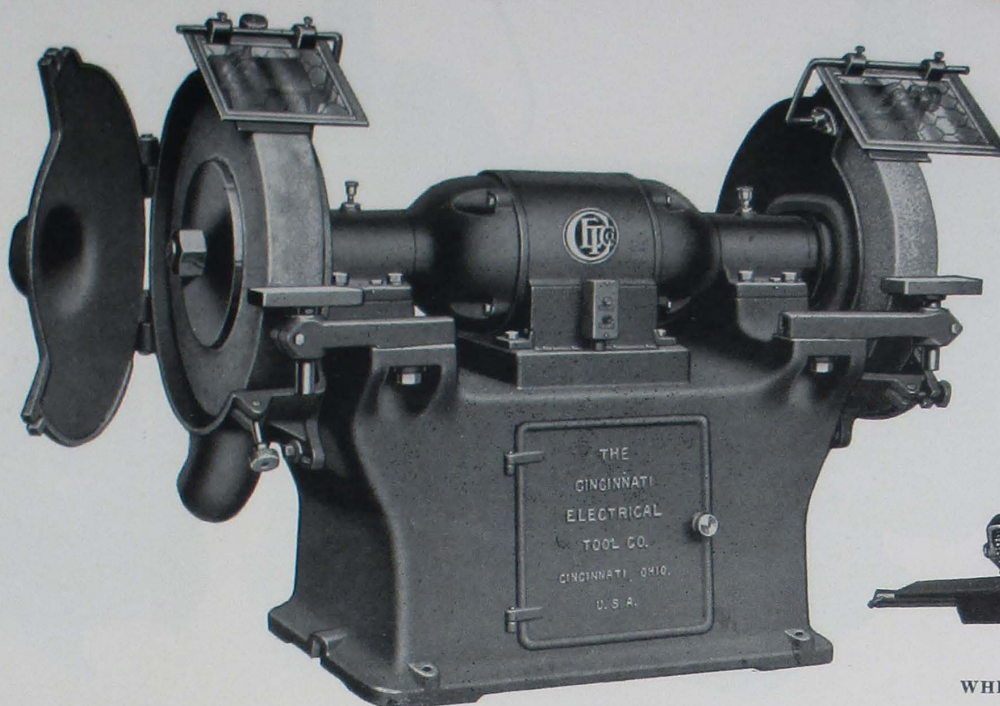
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

KT	115	2	1750	12"x2"	1 $\frac{1}{4}$ "	29"	13"	38"	25"x20"	525	675	KETAL
KT	230	2	1750	12"x2"	1 $\frac{1}{4}$ "	29"	13"	38"	25"x20"	525	675	KHAKI
KV	115	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	33"	16"	38"	25"x20"	550	700	KILT
KV	230	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	33"	16"	38"	25"x20"	550	700	KISMET

You should have an AIR MASTER with this Tool, see page 47.

The Cincinnati



WHEEL DRESSER

18, 20 and 24-inch

Roller-Bearing Pedestal Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

HEAVERY-DUTY Roller-Bearing Grinders, built for continuous service. Nickel steel one-piece shaft is equipped with four Timken adjustable roller bearings, running in oil. Wheel guards are adjustable to wear of wheels and are equipped with exhaust connections, hinged doors, spark breakers and shatter-proof glass eye shields. Grinding rests are also adjustable. A spindle locking device is provided to facilitate changing of wheels. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the base of grinder, push-button station on the motor frame. For wheel dresser, see price sheet.

Can be furnished with flanges for 10" or 12" bore grinding wheels, see price sheet.
Grinding wheels not regularly furnished, supplied on order.
For boiler plate wheel guards, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
CFA	220-60-3	5	1150	18"x3"	2"	42"	35"	34"x25½"	1575	1740	CABAL
CFA	440-60-3	5	1150	18"x3"	2"	42"	35"	34"x25½"	1575	1740	CAJOLE
HGA	220-60-3	7½	1150*	20"x3"	2"	42"	35"	34"x25½"	1650	1835	CASERN
HGA	440-60-3	7½	1150*	20"x3"	2"	42"	35"	34"x25½"	1650	1835	CACTUS
JSA	220-60-3	7½	850	24"x4"	2¼"	52½"	34"	42½"x30"	2375	2550	CALYX
JSA	440-60-3	7½	850	24"x4"	2¼"	52½"	34"	42½"x30"	2375	2550	CAMLET
JTA	220-60-3	10	850	24"x4"	2¼"	52½"	34"	42½"x30"	2425	2610	CANARD
JTA	440-60-3	10	850	24"x4"	2¼"	52½"	34"	42½"x30"	2425	2610	CANCAN

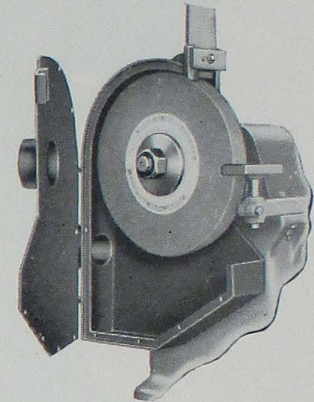
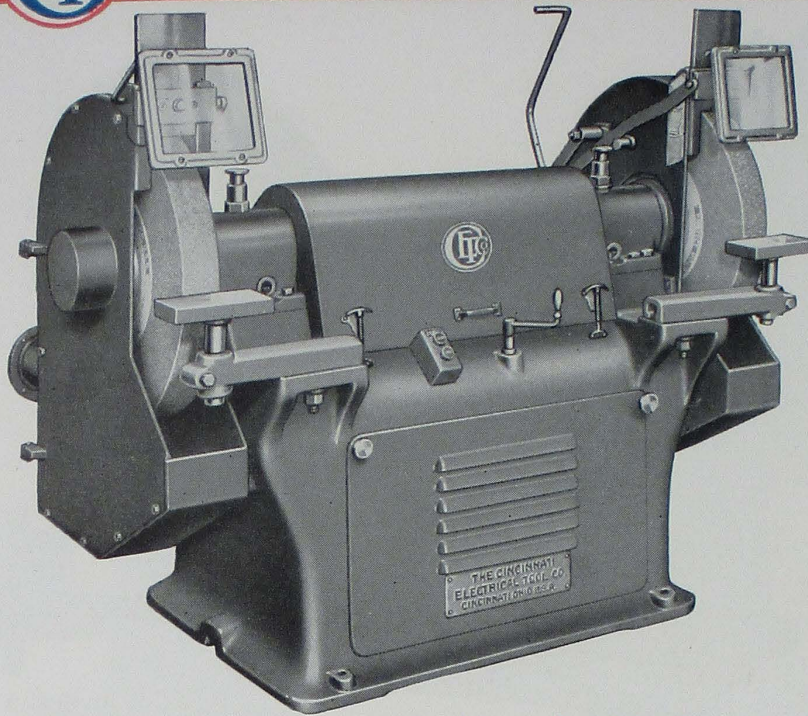
Furnished in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word.
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

CF	115	5	1160	18"x3"	2"	42"	35"	34"x25½"	1700	1865	CANELLA
CF	230	5	1160	18"x3"	2"	42"	35"	34"x25½"	1700	1865	CANTO
HG	115	7½	1160*	20"x3"	2"	42"	35"	34"x25½"	1800	1975	CAIRN
HG	230	7½	1160*	20"x3"	2"	42"	35"	34"x25½"	1800	1975	CARDER
JS	115	7½	850	24"x4"	2¼"	52½"	34"	42½"x30"	2500	2700	CAPIAS
JS	230	7½	850	24"x4"	2¼"	52½"	34"	42½"x30"	2500	2700	CAPLIN
JT	115	10	850	24"x4"	2¼"	52½"	34"	42½"x30"	2625	2825	CAPON
JT	230	10	850	24"x4"	2¼"	52½"	34"	42½"x30"	2625	2825	CAPRIC

*Also furnished at speed of 1750 R.P.M. for resinoid bonded wheels, at regular list price, but in which case 10" flanges are recommended, see price sheet.

You should have an AIR MASTER with this Tool, see page 47.



18, 20 and 24-inch

Three Speed Snagging Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, give Cycles and Phase

A smooth, quiet-running heavy duty Variable Speed Vee Belt Snagging Grinder, designed for high-speed production grinding. No noise—no vibration—no back lash—no chatter, as in gear-driven, snagging grinders. Three-speed changes are provided to maintain efficient peripheral speeds on either vitrified or high-speed grinding wheels for the entire life of the wheels. (See table below.) In changing the spindle speed, it is but necessary to raise the motor, releasing the tension on the Vee belts, and move the three-speed sheave on the spindle into the next position by means of a rack and pinion. A positive speed control operating in conjunction with the spark shields prevents over-speeding of the wheels. A visible indicating plate is located on the side of the guard, clearly indicating when the wheel has worn to a point that allows the speed to be changed, thus preventing underspeeding of the wheels. Nickel Steel Shaft—supported by four heavy duty sealed type ball bearings, running in oil in dust-proof housings. A gauge is provided to show the proper oil level as well as a conveniently located drain plug for oil renewal. A spindle locking device is provided to facilitate changing of wheels. A split cast coupling on the spindle pro-

vides an easy means of applying new belts. Removal of the coupling exposes a space between the shaft ends, allowing the belts to pass through the opening. Wheel guards are of the American Foundrymen's Association type. They are made of boiler plate steel with hinged covers and equipped with large shatterproof glass eye shields. The guard itself is stationary, the only adjustment required to compensate for the wear of the wheel being the movement of the tongue or spark shield. The design of the lower front section of the guard eliminates the possibility of dropped pieces becoming wedged between the wheel and guard. This design is also the means of a more positive trap for sparks and chips. The location of the exhaust port is such that it cannot become obstructed by any residue which may form in the bottom of the guard through the fusing of hot sparks and metal chips. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the base of the grinder and the push-button station on the front of the cabinet within easy reach of the operator. For wheel dresser see page 25.

Grinding wheels not regularly furnished, but supplied on order.

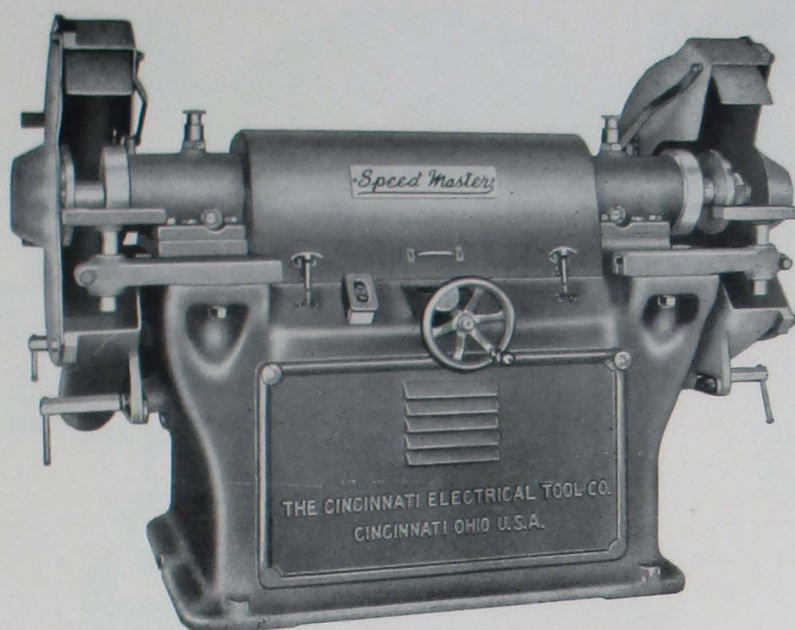
*Wheel flanges for 2 1/4" bore vitrified wheels furnished as Standard Equipment.
For 10" or 12" bore wheel flanges for use with high speed wheels, see price sheet.

SPECIFICATIONS

Type	Volts	H. P.	Wheel Size	Spindle Speeds for Vitrified Wheels	Spindle Speeds for High Speed Wheels	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
BAA	220-60-3	5	*18"x3"x10"	1200-1400-	2000-2300-	2 1/4"	52 3/8"	34"	42 3/8"x30"	1975	2150	CACAO
BAA	440-60-3	5	*18"x3"x10"	1650	2700	2 1/4"	52 3/8"	34"	42 3/8"x30"	1975	2150	CADE
BCA	220-60-3	7 1/2	*20"x3"x10"	1100-1400-	1800-2150-	2 1/4"	52 3/8"	34"	42 3/8"x30"	2075	2225	CADGE
BCA	440-60-3	7 1/2	*20"x3"x10"	1700	2550	2 1/4"	52 3/8"	34"	42 3/8"x30"	2075	2225	CALM
BGA	220-60-3	10	*24"x3"x12"	900-1200-	1550-1800-	2 1/4"	52 3/8"	34"	42 3/8"x30"	2500	2700	CANOE
BGA	440-60-3	10	*24"x3"x12"	1400	2100	2 1/4"	52 3/8"	34"	42 3/8"x30"	2500	2700	CANTER

Furnished in 2 or 3 phase only. For 2 phase or 550 volts, mention after code word.
Can also be furnished for Direct Current and odd cycles Alternating Current; prices on application.
*When ordering, specify whether vitrified or high speed wheels are to be used.

You should have an AIR MASTER with this Tool, see page 47.



Types VBKA and VBMA
24 and 30-inch

"Speed Master" Variable Speed Snagging Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

THE CINCINNATI "Speed Master", Variable Speed Snagging Grinder, is a big improvement over 2 or 3 Speed Belt or Gear Driven Grinders, it being unnecessary to change pulleys or belts, or shift gears, to effect the various speed changes.

Efficient peripheral speeds, on either vitrified or high speed grinding wheels, are maintained, for the entire life of the wheels. (See table below.)

To increase the spindle speed, to compensate for wheel wear, it is but necessary to turn a conveniently located hand wheel, on the front of the pedestal. The adjustment of the pitch diameters, of the pulleys, is synchronized with the movement of the wheel guards and spark breakers, making it absolutely impossible to overspeed the grinding wheels.

The nickel steel shaft is supported by four heavy duty, sealed type ball bearings, running in oil, in dust-proof housings, with labyrinth seals, preventing the entrance of dirt or grit into the bearing chambers. A gauge is provided, on each bearing box, to show the proper oil level, also a conveniently located drain plug for oil renewal.

A spindle locking device is provided to facilitate changing of wheels. A split coupling, keyed to the shaft, makes easy belt renewal.

Wheel guards are of boiler plate, adjustable to the wear of the grinding wheels and have exhaust connections, hinged doors, spark breakers and shatterproof glass eye shields. Grinding rests are also adjustable.

These Grinders are equipped with fully enclosed ball bearing, fan-cooled motor, on rear of pedestal. A magnetic starter with overload and no-voltage protection is standard equipment.

For wheel dresser, see page 25.

Grinding wheels not regularly furnished, but supplied on order.

*Wheel flanges for 2 1/4" bore vitrified wheels furnished as Standard Equipment.
For 10" or 12" bore wheel flanges for use with high speed wheels, see price sheet.

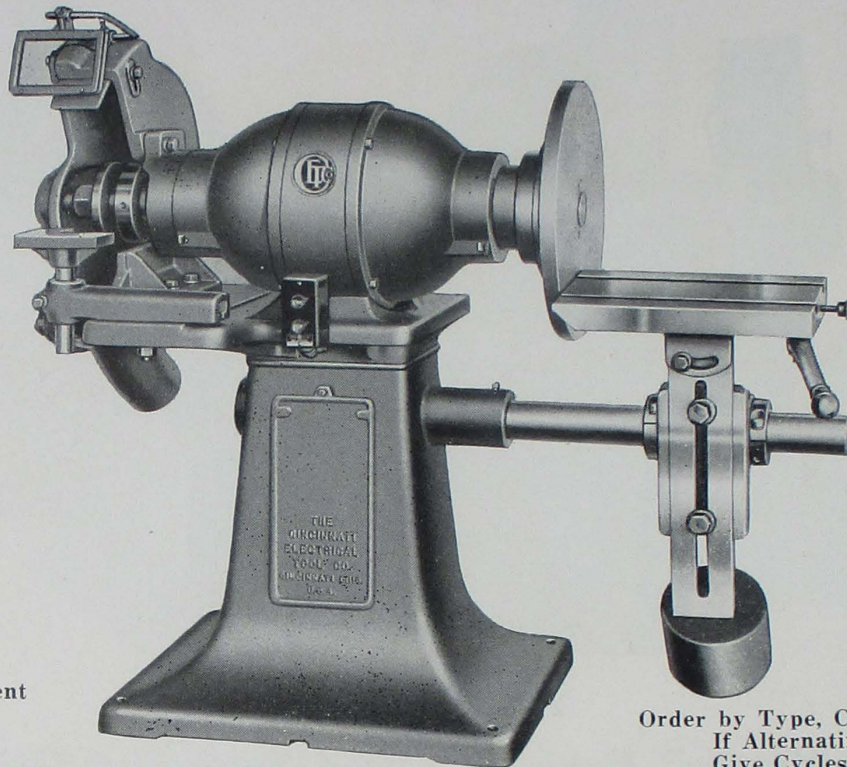
SPECIFICATIONS

Type	Volts	H.P.	Wheel Size *	Spindle Speeds for Vitrified Wheels	Spindle Speeds for High Speed Wheels	Diam. Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
VBKA	220-60-3	10	24"x3"x10"	900 to 1400	1550 to 2100	2 1/4"	52 3/8"	34"	42 5/8"x30"	3300	3550	CORNEA
VBKA	440-60-3	10	24"x3"x10"	900 to 1400	1550 to 2100	2 1/4"	52 3/8"	34"	42 5/8"x30"	3300	3550	CORONET
VBMA	220-60-3	15	30"x3"x12"	750 to 1050	1250 to 1750	2 1/4"	52 3/8"	34"	42 5/8"x30"	3600	3900	CORRAL
VBMA	440-60-3	15	30"x3"x12"	750 to 1050	1250 to 1750	2 1/4"	52 3/8"	34"	42 5/8"x30"	3600	3900	CORNET

Furnished in 2 or 3 phase only. For 2 phase or 550 volts, mention after code word.
For Direct Current and odd cycles Alternating Current: prices on application.

*When ordering, specify whether vitrified or high speed wheels are to be used.

You should have an AIR MASTER with this Tool, see page 47.



Alternating Current
Direct Current

Order by Type, Current and Volts.
If Alternating Current,
Give Cycles and Phase.

Combination Single End Disc Grinders

THE CINCINNATI Combination Single End Disc Grinders are ideally suited for use in plants which do not have enough disc grinding to justify the investment in a single-purpose grinder. The grinding wheel may be used for grinding castings or tools, greatly increasing the general utility of the machine.

The spindle is of nickel steel, mounted on extra large ball bearings with special provision for both radial as well as thrust loads. The disc is of high-grade steel accurately machined and balanced to ensure running true. A table with hand-lever feed is regularly furnished, but a plain table without feed can be supplied if desired—price on application. The standard disc may be had properly drilled for mounting steel-back abrasive discs, at no additional charge; also arranged to carry ring wheel chucks—price on application. Adjustable guard, with exhaust connection, can be supplied for disc, price on application.

The wheel guard on the grinding wheel side is fully enclosed and adjustable to the wear of the wheel. A shatter-proof glass eye shield is furnished as standard equipment on grinders over 1 H.P.; for eye-shield price for ½ and 1 H.P. grinders, see page 10. ½ and 1 H.P. grinders are furnished with a two-pole toggle switch mounted in the base; grinders 2 H.P. and over with magnetic starters with overload and no-voltage protection mounted in the pedestal, with push-button station on the motor frame.

Grinding wheel furnished as standard equipment on ½ and 1 H.P. grinders only; can be supplied on machines 2 H.P. and over on order.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	HP	Load Speed RPM	Wheel Size	Disc Size	Size of Table	Diam. Shaft Bet. Flanges	Rocker Shaft Diam.	Horiz. Adj. of Table on Rocker Shaft	Vert. Adj. of Table	Hand Lever Feed	Lgth. Over-all	Height Floor to Center of Spindle	Size Base at Bottom	Net Wght. Lbs.	Ship. Wght. Lbs.	Code Word
FHAC	110-60-1	½	3450	8x1"	7"	6x10"	¾"	1 ¼"	5 ½"	4 ½"	2 ¼"	34 ½"	39"	16x12"	305	395	DALE
†FHAC	220-60-1	½	3450	8x1"	7"	6x10"	¾"	1 ¼"	5 ½"	4 ½"	2 ¼"	34 ½"	39"	16x12"	305	395	DAMP
FOAC	110-60-1	1	1750	10x1 ¼"	8"	6x10"	¾"	1 ¼"	5 ½"	4 ½"	2 ¼"	35 ¼"	39"	20x15"	415	530	DARE
†FOAC	220-60-1	1	1750	10x1 ¼"	8"	6x10"	¾"	1 ¼"	5 ½"	4 ½"	2 ¼"	35 ¼"	39"	20x15"	415	530	DARK
*HTAC	220-60-3	2	1750	12x2"	10"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	44"	39"	25x20"	575	700	DIME
*HTAC	440-60-3	2	1750	12x2"	10"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	44"	39"	25x20"	575	700	DINT
*HCAC	220-60-3	3	1750	14x2 ½"	12"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	45 ¼"	38"	25x20"	615	740	DING
*HCAC	440-60-3	3	1750	14x2 ½"	12"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	45 ¼"	38"	25x20"	615	740	DONG
*HEAC	220-60-3	5	1750	14x3"	14"	8x14"	1 ¼"	2 ¼"	5 ½"	5"	3 ¼"	51 ½"	38"	25x20"	700	825	DOCK
*HEAC	440-60-3	5	1750	14x3"	14"	8x14"	1 ¼"	2 ¼"	5 ½"	5"	3 ¼"	51 ½"	38"	25x20"	700	825	DOLF
*FSAC	220-60-3	7 ½	1160	18x3"	18"	10x16"	1 ½"	2 ¾"	5 ½"	5 ½"	3 ¾"	56"	38"	28x23"	1300	1460	DOLT
*FSAC	440-60-3	7 ½	1160	18x3"	18"	10x16"	1 ½"	2 ¾"	5 ½"	5 ½"	3 ¾"	56"	38"	28x23"	1300	1460	DOOM

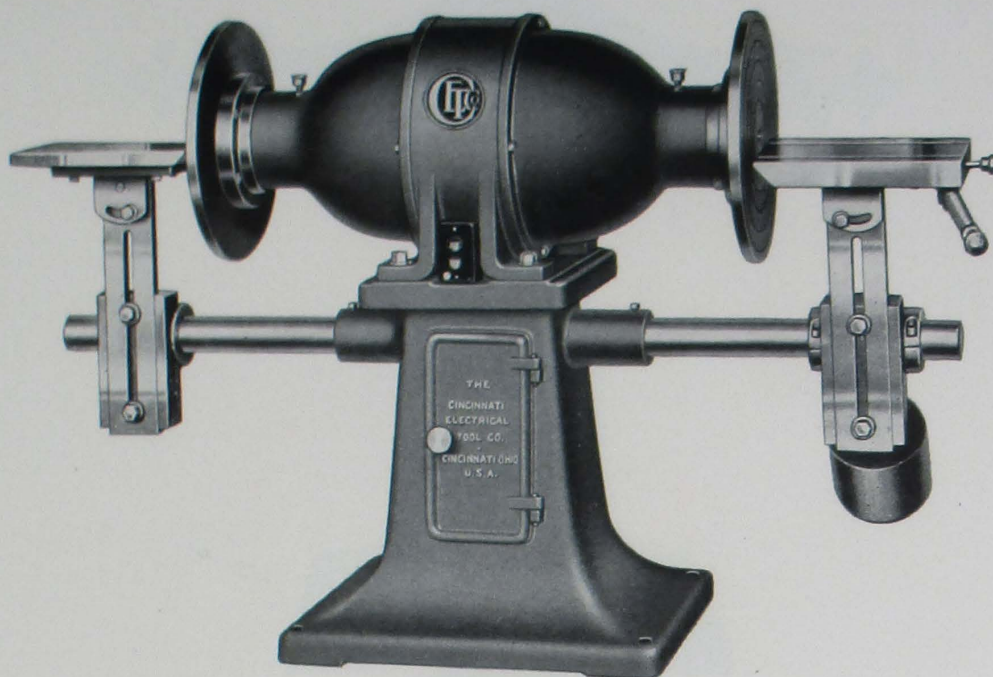
†Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

*Made in 2 or 3 phase only, also for 550 volts. If 2 phase is desired, mention after code word.
Speed for 25 cycles, 1500 R.P.M. For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

FOC	115	1	1750	10x1 ¼"	8"	6x10"	¾"	1 ¼"	5 ½"	4 ½"	2 ¼"	33 ½"	39"	20x15"	430	545	DOST
FOC	230	1	1750	10x1 ¼"	8"	6x10"	¾"	1 ¼"	5 ½"	4 ½"	2 ¼"	33 ½"	39"	20x15"	430	545	DOVE
HTC	115	2	1750	12x2"	10"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	44"	39"	25x20"	605	730	DOZE
HTC	230	2	1750	12x2"	10"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	44"	39"	25x20"	605	730	DRAB
HCC	115	3	1750	14x2 ½"	12"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	45 ¼"	38"	25x20"	655	780	DRAG
HCC	230	3	1750	14x2 ½"	12"	6x10"	1 ¼"	2"	5 ½"	4 ½"	2 ¼"	45 ¼"	38"	25x20"	655	780	DRAM
HEC	115	5	1750	14x3"	14"	8x14"	1 ¼"	2 ¼"	5 ½"	5"	3 ¼"	52"	38"	25x20"	800	975	DRAW
HEC	230	5	1750	14x3"	14"	8x14"	1 ¼"	2 ¼"	5 ½"	5"	3 ¼"	52"	38"	25x20"	800	975	DRAY
FSC	115	7 ½	1160	18x3"	18"	10x16"	1 ½"	2 ¾"	5 ½"	5 ½"	3 ¾"	60"	38"	28x23"	1300	1600	DRIP
FSC	230	7 ½	1160	18x3"	18"	10x16"	1 ½"	2 ¾"	5 ½"	5 ½"	3 ¾"	60"	38"	28x23"	1300	1600	DRUM

You should have an AIR MASTER with this Tool, see page 47.



Double End Disc Grinders

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

THE CINCINNATI Double Disc Grinders are suitable for a wide variety of surface grinding in shops of all kinds. The spindle is of nickel steel, mounted on extra large ball bearings, with special provision for heavy thrust loads. The discs are of high-grade steel, accurately machined and balanced to ensure running true. A table with hand-lever feed is regularly furnished on the right-hand side of the grinder, with a plain table on the opposite side, but this equipment may be changed to suit individual requirements — price on application. The standard discs may be had properly drilled for mounting steel-back abrasive discs at no additional charge; also arranged to carry ring wheel chucks — price on application. Magnetic starter with both overload and no-voltage protection is mounted in the pedestal, with push-button station on the motor frame. Adjustable guards with exhaust connections can be furnished, prices on application.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H.P.	Load Speed RPM	Disc Size	Size of Table	Rocker Shaft Diam.	Horiz. Adj. of Table on Rocker Shaft	Vert. Adj. of Table	Hand Lever Feed	Lgth. Over-all	Height Floor to Center of Spindle	Size Base at Bottom	Net Wght. Lbs.	Ship. Wght. Lbs.	Code Word
HTAD	220-60-3	2	1750	10"	6x10"	2"	5½"	4½"	2¼"	55"	39"	25x20"	650	775	JACK
HTAD	440-60-3	2	1750	10"	6x10"	2"	5½"	4½"	2¼"	55"	39"	25x20"	650	775	JADE
HCAD	220-60-3	3	1750	12"	6x10"	2"	5½"	4½"	2¼"	55½"	38"	25x20"	690	815	JAMB
HCAD	440-60-3	3	1750	12"	6x10"	2"	5½"	4½"	2¼"	55½"	38"	25x20"	690	815	JEER
HEAD	220-60-3	5	1750	14"	8x14"	2¾"	5½"	5"	3¼"	65"	38"	25x20"	775	900	JEHU
HEAD	440-60-3	5	1750	14"	8x14"	2¾"	5½"	5"	3¼"	65"	38"	25x20"	775	900	JOHN
FSAD	220-60-3	7½	1160	18"	10x16"	2¾"	5½"	5½"	3¾"	72"	38"	28x23"	1175	1375	JUKE
FSAD	440-60-3	7½	1160	18"	10x16"	2¾"	5½"	5½"	3¾"	72"	38"	28x23"	1175	1375	JOSS

Made in 2 or 3 phase only; also for 550 volts. If 2 phase is desired, mention after code word. Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

HTD	115	2	1750	10"	6x10"	2"	5½"	4½"	2¼"	54"	39"	25x20"	680	805	JINK
HTD	230	2	1750	10"	6x10"	2"	5½"	4½"	2¼"	54"	39"	25x20"	680	805	JOCK
HCD	115	3	1750	12"	6x10"	2"	5½"	4½"	2¼"	55½"	38"	25x20"	730	845	JOKE
HCD	230	3	1750	12"	6x10"	2"	5½"	4½"	2¼"	55½"	38"	25x20"	730	845	JOLT
HED	115	5	1750	14"	8x14"	2¾"	5½"	5"	3¼"	65"	38"	25x20"	875	990	JUST
HED	230	5	1750	14"	8x14"	2¾"	5½"	5"	3¼"	65"	38"	25x20"	875	990	JOIST
FSD	115	7½	1160	18"	10x16"	2¾"	5½"	5½"	3¾"	73"	38"	28x23"	1275	1475	JALAP
FSD	230	7½	1160	18"	10x16"	2¾"	5½"	5½"	3¾"	73"	38"	28x23"	1275	1475	JINGO

You should have an AIR MASTER with this Tool, see page 47.



$\frac{1}{2}$ and 1 H. P.

Buffing and Polishing Lathes

Alternating Current Only

Order by Type, Current and Volts — If Alternating Current, Give Cycles and Phase

BUFFING and Polishing Lathes, with repulsion induction motors, especially adapted for buffing and polishing of all kinds. Motor shaft is mounted on four deep-groove radial ball bearings, in dust-proof housings and correctly locked to the shaft, to eliminate wear. Two-pole starting switch is entirely enclosed in the base of the motor. Adjustable hoods furnished, as extras, see page 47.

Buffing wheels are not regularly furnished, but can be supplied on order.
Also furnished in bench type, see price sheet.

SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R.P.M.	Diameter Shaft Bet. Flanges	Space Between Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
DHA	110-60-1	$\frac{1}{2}$	3525	$\frac{5}{8}$ "	1"	29 $\frac{1}{4}$ "	39 $\frac{1}{2}$ "	16"x12"	175	275	JOURNAL
*DHA	220-60-1	$\frac{1}{2}$	3525	$\frac{5}{8}$ "	1"	29 $\frac{1}{4}$ "	39 $\frac{1}{2}$ "	16"x12"	175	275	JUSTICE
DRA	110-60-1	1	†1750	$\frac{3}{4}$ "	1 $\frac{1}{4}$ "	32"	40"	20"x15"	260	380	JUTE
*DRA	220-60-1	1	†1750	$\frac{3}{4}$ "	1 $\frac{1}{4}$ "	32"	40"	20"x15"	260	380	JASPER

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.
speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

†: H.P. Buffer also furnished 3400 R. P. M., if desired.

You should have an AIR MASTER with this Tool, see page 47.



2, 3, 5 and 7½ H. P.

Buffing and Polishing Lathes

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

HEAVY-DUTY Buffing and Polishing Lathes, especially designed and ruggedly built for continuous service under the most severe conditions. Motor shaft is of high-grade steel, accurately ground to size, and provided with shaft locking device for changing wheels. Four deep-groove ball bearings are mounted in dust-proof housings and are firmly locked to the shaft to provide end thrust and eliminate wear. Magnetic starter with overload and no-voltage protection is mounted in the pedestal. Push-button station is mounted on the motor frame. Adjustable buffing hoods furnished, as extras, see page 47.

Buffing wheels are not regularly furnished, but can be supplied on order.
Also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load *Speed, R.P.M.	Diameter Shaft Bet. Flanges	Space Between Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
DTA	220-60-3	2	1750	1¼"	2"	38½"	37½"	25"x20"	425	565	MUMMY
DTA	440-60-3	2	1750	1¼"	2"	38½"	37½"	25"x20"	425	565	MACAW
DVA	220-60-3	3	1750	1¼"	2½"	38½"	38"	25"x20"	450	575	MILLER
DVA	440-60-3	3	1750	1¼"	2½"	38½"	38"	25"x20"	450	575	MACRO
DFA	220-60-3	5	1750	1¼"	3"	42" or 52"	38"	25"x20"	475	600	MAJOR
DFA	440-60-3	5	1750	1¼"	3"	42" or 52"	38"	25"x20"	475	600	MALT
DSA	220-60-3	7½	1750	1½"	3½"	42" or 52"	37"	28"x23"	620	760	MANLY
DSA	440-60-3	7½	1750	1½"	3½"	42" or 52"	37"	28"x23"	620	760	MAPLE

Made in 2 or 3 phase only; also for 550 volts. If 2 phase or odd cycles is desired, mention after code word.

Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.

*Alternating Current Buffers also furnished 3450 R.P.M., if desired.

DIRECT CURRENT SPECIFICATIONS

DT	115	2	1750	1¼"	2"	40"	38"	25"x20"	435	575	MANDATE
DT	230	2	1750	1¼"	2"	40"	38"	25"x20"	435	575	MIRACLE
DV	115	3	1750	1¼"	2½"	40"	39"	25"x20"	475	625	MONK
DV	230	3	1750	1¼"	2½"	40"	39"	25"x20"	475	625	MOP
DF	115	5	1750	1¼"	3"	42" or 52"	39"	25"x20"	550	700	MAGUEY
DF	230	5	1750	1¼"	3"	42" or 52"	39"	25"x20"	550	700	MALAGA
DS	115	7½	1750	1½"	3½"	42" or 52"	38"	28"x23"	650	800	MALAR
DS	230	7½	1750	1½"	3½"	42" or 52"	38"	28"x23"	650	800	MANIS

You should have an AIR MASTER with this Tool, see page 47.

The Cincinnati



THE CINCINNATI ELECTRICAL TOOL CO.



2, 3 and 5 H. P.

Buffing and Polishing Lathes

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

THESE Heavy-Duty Buffing and Polishing Lathes are of the same general design as buffers shown on page 31, with the exception that no spindle supporting sleeves are furnished. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the pedestal, push-button station on the motor frame. Adjustable buffing hoods furnished, as extras, see page 47.

Also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R.P.M.	Diameter Shaft Bet. Flanges	Space Between Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
DKA	220-60-3	2	1750	1 1/4"	2 1/2"	34"	37 1/2"	25"x20"	375	500	KINK
DKA	440-60-3	2	1750	1 1/4"	2 1/2"	34"	37 1/2"	25"x20"	375	500	KAYAK
DLA	220-60-3	3	1750	1 1/4"	2 1/2"	34"	38"	25"x20"	400	525	KIT
DLA	440-60-3	3	1750	1 1/4"	2 1/2"	34"	38"	25"x20"	400	525	KAZOO
DMA	220-60-3	5	1750	1 1/4"	2 1/2"	40"	38"	25"x20"	425	550	KIMONO
DMA	440-60-3	5	1750	1 1/4"	2 1/2"	40"	38"	25"x20"	425	550	KODAK

Made in 2 or 3 phase only; also for 550 volts. If 2 phase or odd cycles is desired, mention after code word

Speed for 25 cycles, 1500 R.P.M.

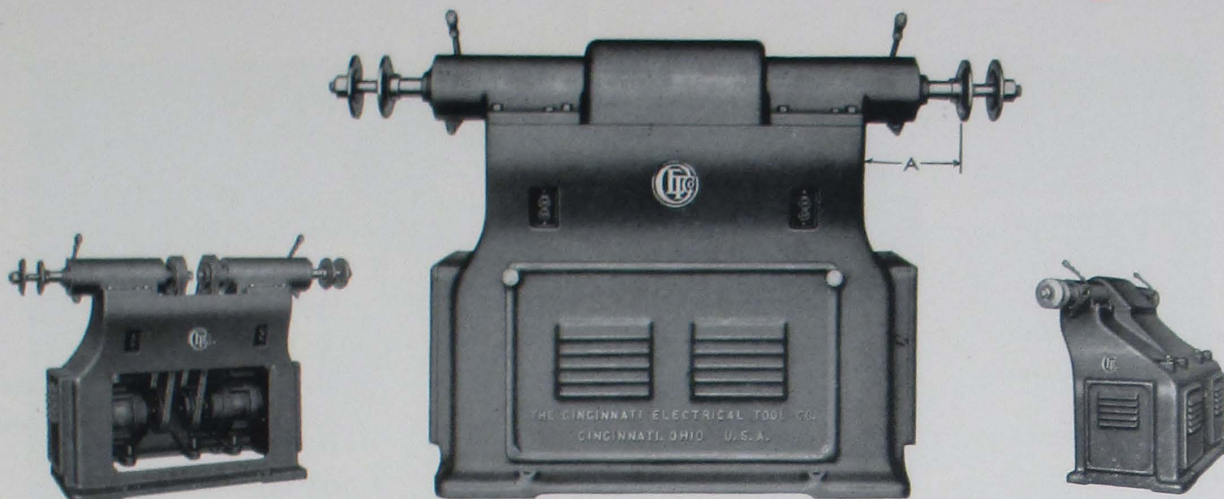
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R.P.M.	Diameter Shaft Bet. Flanges	Space Between Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
DK	115	2	1750	1 1/4"	2 1/2"	35"	38"	25"x20"	420	550	KNOT
DK	230	2	1750	1 1/4"	2 1/2"	35"	38"	25"x20"	420	550	KNACK
DL	115	3	1750	1 1/4"	2 1/2"	35"	39"	25"x20"	475	600	KNAVE
DL	230	3	1750	1 1/4"	2 1/2"	35"	39"	25"x20"	475	600	KNUR
DM	115	5	1750	1 1/4"	2 1/2"	40"	39"	25"x20"	525	650	KELP
DM	230	5	1750	1 1/4"	2 1/2"	40"	39"	25"x20"	525	650	KERITE

You should have an AIR MASTER with this Tool, see page 47.

The Cincinnati



3, 5, 7½, 10 and 15 H. P. — Single and Double Motor

Vee Belt Driven Buffing and Polishing Lathes

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

VEE-BELT Driven Buffers with overhanging spindles, especially designed for the heaviest polishing jobs on large and odd-shaped pieces.

Ball-bearing equipped motors are mounted on heavy columns in vee ways and are securely held in position by heavy clamps and adjustable screws on each motor.

Any spindle speed can be furnished, and speeds are quickly changed by merely changing the motor pulley only. Spindles are of nickel steel, machined to perfect balance, and are mounted in extra large ball-bearings running in oil, with labyrinth seals.

The bearing housings can be removed from the cabinet without disturbing the shafts or bearings. Perfect alignment is obtained by two large taper dowel pins.

Brake with external adjustment is provided for each individual spindle to facilitate the changing of buffing wheels.

Extra large cover plates on cabinet give easy access to motors, starters, belts, etc. Louvers in cover plates keep out dust and yet permit circulation of air so essential to long belt life.

Each individual motor has a magnetic starter with overload and low voltage protection, mounted in the cabinet, with push-button control.

Adjustable buffing hoods furnished, as extras, see page 47.

SPECIFICATIONS SINGLE MOTOR DRIVE

Type	Volts	H.P.	Speed R.P.M.	Diam. of Shaft between Bearings	Diam. of Shaft between Flanges	Space between Flanges	Distance between Wheels	Length Spindle Overall	Dimen. "A"	Height to Center of Spindle	Size of Base at Bottom	No. of Ball Bearings	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
COA	220-60-3	3	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1300	1525	TREAT
COA	440-60-3	3	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1300	1525	TOAST
EOA	220-60-3	5	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1350	1570	TOKEN
EOA	440-60-3	5	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1350	1570	TITLE
GOA	220-60-3	7 1/2	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1550	1770	THORN
GOA	440-60-3	7 1/2	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1550	1770	TASTE
HOA	220-60-3	10	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1575	1790	TEACH
HOA	440-60-3	10	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1575	1790	TANGO
LOA	220-60-3	15	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1700	1900	TABLE
LOA	440-60-3	15	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1700	1900	TAFFY

SPECIFICATIONS DOUBLE MOTOR DRIVE

Type	Volts	H.P.	Speed R.P.M.	Diam. of Shaft between Bearings	Diam. of Shaft between Flanges	Space between Flanges	Distance between Wheels	Length Spindle Overall	Dimen. "A"	Height to Center of Spindle	Size of Base at Bottom	No. of Ball Bearings	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
DOA	220-60-3	Two 3	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1500	1720	TALLY
DOA	440-60-3	Two 3	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1500	1720	TRAIN
MOA	220-60-3	Two 5	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1575	1795	TOPAZ
MOA	440-60-3	Two 5	To Suit	2 1/16"	*1 1/4"	3"	51 3/4"	61 3/4"	9 3/4"	39"	34 1/2" x 24 1/4"	4	1575	1795	TORCH
NOA	220-60-3	Two 7 1/2	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1650	1870	TOWER
NOA	440-60-3	Two 7 1/2	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1650	1870	TOTAL
SOA	220-60-3	Two 10	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1775	2000	TREAD
SOA	440-60-3	Two 10	To Suit	2 1/16"	*1 1/4"	3"	54"	64"	9 3/4"	39"	45" x 27"	4	1775	2000	TRIBE

*Can furnish Shaft 1 1/2" diameter without additional charge.

Dimension "A" can be furnished 17", see price sheet.

Made in 2 or 3 phase only; also for 550 volts. If 2 phase or odd cycles

is desired, mention after code word.

Can also be furnished for Direct Current and odd cycles Alternate Current; prices on application.

You should have an AIR MASTER with this Tool, see page 47.

The Cincinnati



Variable speed motor
Smoothness of operation
at any speed
Ball Bearings throughout
No belts to slip

Easy to clean
No friction drive
No excessive noise or vibration
Bronze bowl, disk and ring resist
corrosion
No splashing of polishing
material

Variable Speed Metallographic Polishing Machine

THE CINCINNATI Metallographic Polishing Machine is a sturdy, well-built machine throughout. The bowl, disk and ring, together with other small parts, are made of cast bronze, which resists corrosion and thus eliminates the danger of rust particles interfering with the polishing. The depth and diameter of the bowl prevent splashing of the polishing materials, but as an added precaution, a bronze splash ring is furnished which can be quickly removed to permit easy cleaning of the bowl. A $\frac{3}{8}$ -inch pipe drain prevents stoppage. An outside projecting rim makes it possible for the machine to be fitted securely and permanently into a convenient height work bench. The occasional lubrication of the bearings is the only attention THE CINCINNATI Metallographic Polishing Machine will require to give you constant, trouble-free service. THE CINCINNATI Polishing Machine is remarkably easy to operate. A simple clutch arrangement enables the operator to change polishing disks quickly and easily by merely lifting one disk from the motor shaft and substituting another. A spun copper cover is furnished for the bowl when not in use, thus preventing contamination from dust in the air.

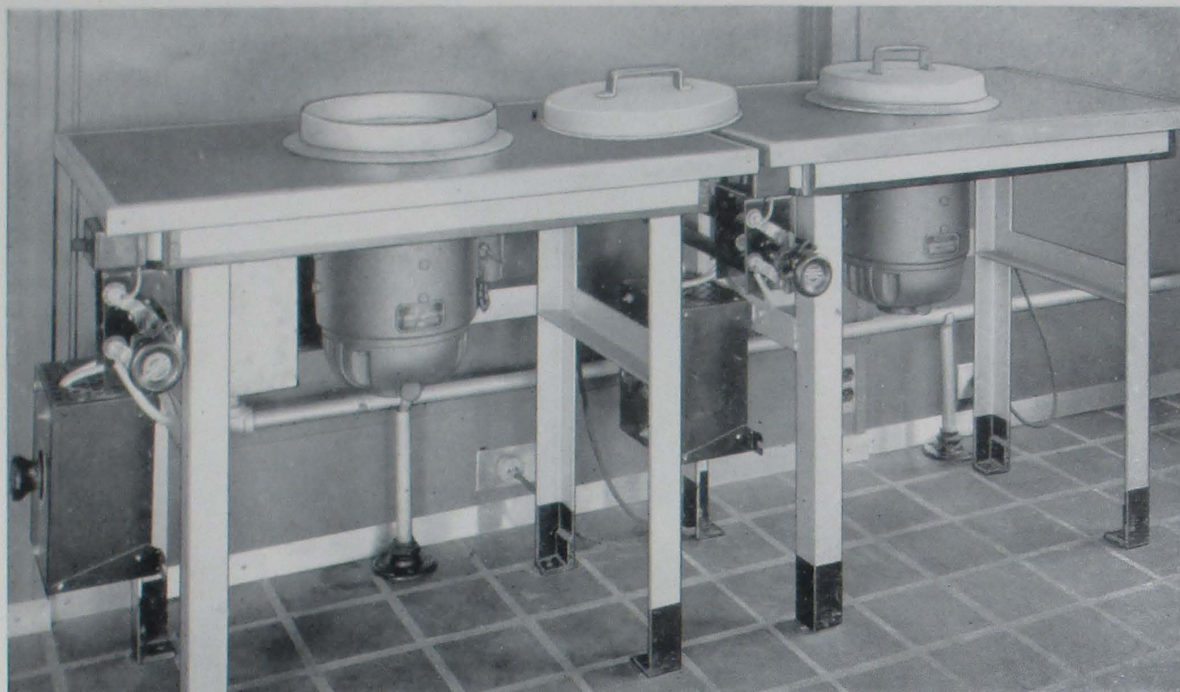
DIRECT CURRENT SPECIFICATIONS

Type	Volts	Speed	Weight	Code Word
CL	115	600-3000*	155 lbs.	FLICK FLYER
CL	230	600-3000*	155 lbs.	

ALTERNATING CURRENT SPECIFICATIONS

CLA	110	600-2000†	125 lbs.	FLEX FLEET
CLA	220	600-2000†	125 lbs.	

*If a slower speed than 600 R.P.M. is desired, in the Direct Current Machine, an armature control can be furnished which will further reduce the speed to approximately 300 R.P.M. See Price Sheet.

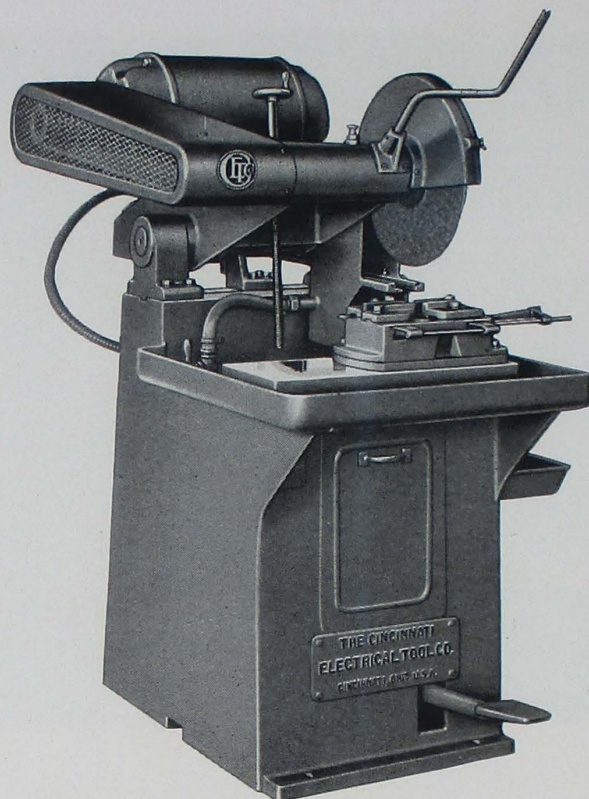


A Direct Current Installation of "The Cincinnati" Metallographic Polishing Machine

THE ABOVE Illustration indicates the convenience and ease of operation of THE CINCINNATI Metallographic Polishing Equipment which can be furnished in one, two or three unit tables. Such Installations can be found in metallurgical laboratories of leading Steel Mills, Shipbuilders, Educational Institutions and many other Industries for polishing metal specimens for Microscopic Examinations.

SPECIFICATIONS

- 1 Unit Table 24" x 36" x 31" High.
- 2 Unit Table 24" x 72" x 31" High.
- 3 Unit Table 24" x 96" x 31" High.



Wet Abrasive Cut-Off Machine

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

THE CINCINNATI Wet Abrasive Cut-Off Machine is suitable for straight or angle cutting of practically any material encountered in general manufacturing, including steel alloys, non-ferrous metals such as brass, copper, aluminum, as well as fibrous and plastic materials in various sizes, angles and shapes.

THE CINCINNATI Wet Cut-Off Machine not only greatly increases the life of the abrasive cut-off wheels, but also produces a cut with a minimum of burr and eliminates burning, as the coolant is directed not only on the point of contact of the cut, but on the sides of the wheel as well.

Abrasive cut-off wheels are not regularly furnished, but can be supplied on order.

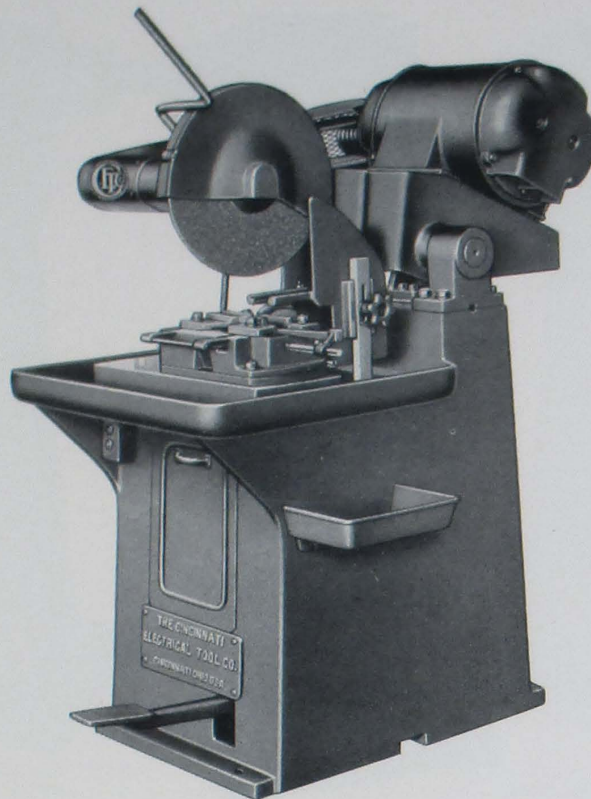
ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Wheel Size	Diameter of Shaft between Flanges	Spindle Speed	Peripheral Speed	Height Overall	Size of Base at Bottom	Net Weight Pounds	Ship. Weight Pounds	Code Word
JCAW	220-60-3	7½	16"x3½"	1"	2300	9500 S.F.M.	59"	33½"x23½"	1625	2050	GALIOT
JCAW	440-60-3	7½	16"x3½"	1"	2300	9500 S.F.M.	59"	33½"x23½"	1625	2050	GALENA

Made in 2 or 3 phase only. If 2 phase or 550 volts AC is desired, mention after code word. An additional charge is made for motors of other current characteristics. Prices on application.

DIRECT CURRENT SPECIFICATIONS

JCW	115	7½	16"x3½"	1"	2300	9500 S.F.M.	59"	33½"x23½"	1675	2095	GAMBIT
JCW	230	7½	16"x3½"	1"	2300	9500 S.F.M.	59"	33½"x23½"	1675	2095	GASIFY



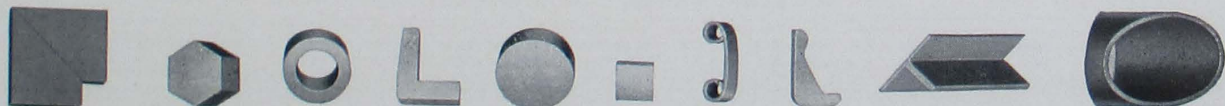
THE CINCINNATI Wet Abrasive Cut-Off Machine is suitable for making straight or angle cuts in solids up to $2\frac{1}{4}$ " or tubing up to $3\frac{1}{2}$ " diameter, the same vise being suitable for the various cuts. In cutting angles up to 45° the maximum capacity is $2\frac{1}{4}$ ". Graduations on the table make angle-cutting fast and accurate. The material is held in the vise by spring tension on the jaws and the work is released after the cut is completed by the foot lever, leaving the operator's hands free at all times. The work is held securely on both sides of the cut, eliminating the possible cramping of work and preventing wheel breakage. The abrasive wheel is moved into the work by means of a hand lever and the arm which carries the abrasive wheel pivots on the pedestal with a counterbalance for easy operation. The abrasive cut-off wheel is completely guarded, with exception of that portion necessary for the actual cutting operation, affording perfect protection to the operator.

A stop is provided which can be set for any depth of cut within the machine's capacity, and a longitudinal stop is provided for regulating the length of the material to be cut.

Three sets of wheel flanges, in different sizes, are furnished to ensure the maximum use of the abrasive wheels. A shaft locking device facilitates changing of wheels. The coolant system consists of a $\frac{1}{4}$ H.P. direct motor driven centrifugal pump with ten-gallon tank, piping and conveniently located control valve.

The spindle is of nickel steel, mounted on sealed-type deep-groove ball bearings running in oil. Labyrinth seals are provided to prevent the ingress of grit or dirt into the bearing housings. A conveniently located drain plug facilitates oil renewal. The spindle is driven by multiple vee belts from a $7\frac{1}{2}$ H.P. Ball Bearing Drip-Proof Motor, 1,800 R.P.M., with magnetic starter with overload and no-voltage protection and push-button control. Can also be furnished with 10 H.P. motor, prices on application.

THESE PIECES CUT WITH THE CINCINNATI HIGH SPEED CUT-OFF MACHINE



The Cincinnati



Ball-Bearing Speed Lathe

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

BALL-BEARING Speed Lathe, especially adapted for burring, reaming, counter-sinking, filing, polishing and lapping small parts of all kinds. Deep groove ball bearings are mounted in dust-proof housings and correctly locked to the motor shaft to provide end thrust and eliminate shaft wear. Switch is entirely enclosed in the base of the motor.

Furnished in practically any speed, 90 to 3400 R.P.M., to meet special applications. May be had with $\frac{1}{2}$ " 3 jaw chuck, instead of Morse taper socket, at no additional charge; for 4" Universal 3 jaw chuck, price on application.

Also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Taper Socket	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
FBA	110-60-1	$\frac{3}{4}$	No. 2	38 $\frac{3}{4}$ "	16"x12"	150	245	VALET VAMPIRE
*FBA	220-60-1	$\frac{3}{4}$	No. 2	38 $\frac{3}{4}$ "	16"x12"	150	245	

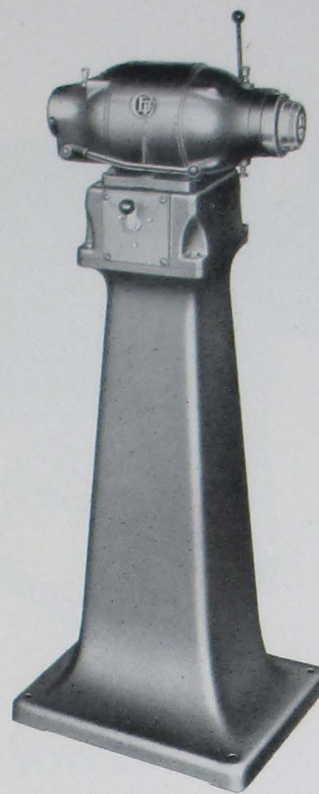
*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

FB	115	$\frac{3}{4}$	No. 2	38 $\frac{3}{4}$ "	16"x12"	165	260	VAGRANT VAIL
FB	230	$\frac{3}{4}$	No. 2	38 $\frac{3}{4}$ "	16"x12"	165	260	



Types FBAB, FCAB and FDAB
with 3 Jaw Chuck



Types FBAC, FCAC and FDAC
with Spring Collet Chuck

Hollow Spindle Speed Lathes

Single or Two Speed

Furnished for Alternating Current, 2 or 3 phase, only.
Order by Type and Volts, giving Cycles and Phase.

HOLLOW SPINDLE Speed Lathe, recommended for burring, lapping, polishing and finishing dies, gears, screw machine and small parts of all kinds. Furnished with either 3 jaw universal or spring-type collet chucks, as required. The hollow spindle construction makes this tool especially adaptable to tubing and bar stock, in a wide range of sizes. The special alloy steel spindle is mounted on oversize ball bearings, in dust-proof housings. A double row ball bearing, on the chuck end of the spindle, carries both radial and thrust loads. Grease cups afford proper lubrication. A combination starting switch and spindle brake, effect great time-saving. The brake shoe is adjustable to wear. A drum controller, conveniently mounted in the base, is provided for quick speed change, in the two-speed lathes. A spindle locking device facilitates the mounting or removal of the chuck.

Also furnished in bench type, see price sheet.

Size of bench base, 9" x 10"; height to center of spindle 9".

SPECIFICATIONS

Equipped with Universal 3 Jaw Chuck.

Type	Voltage	H. P. and Speeds R. P. M.	Diameter Hole in Spindle	Height to Center of Spindle	Size of Base at Bottom	Net Weight Pounds	Shipping Weight Pounds	Code Word
FBAB	220-440-550	$\frac{1}{8}$ - 560 $\frac{1}{4}$ -1150	1"	41"	16 x 12	195	300	VENT VENUE VERGE
FCAB	220-440-550	$\frac{1}{8}$ - 850 $\frac{1}{2}$ -1750	1"	41"	16 x 12	195	300	
FDAB	220-440-550	$\frac{1}{4}$ -1750 $\frac{1}{2}$ -3450	1"	41"	16 x 12	195	300	

A 4" 3 jaw chuck is standard equipment, but 5" or 6" chucks can be furnished, prices on application.

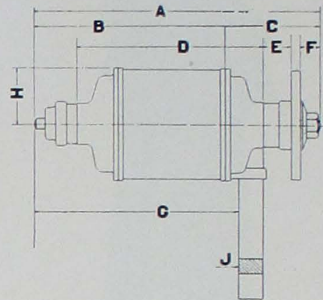
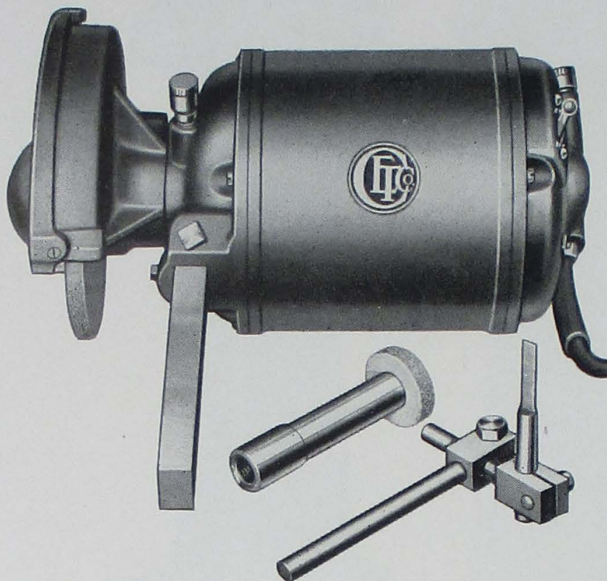
Equipped with Spring Collet Chuck

FBAC	220-440-550	$\frac{1}{8}$ - 560 $\frac{1}{4}$ -1150	$\frac{3}{4}$ "	41"	16 x 12	195	300	VIEW VIGIL VILLA
FCAC	220-440-550	$\frac{1}{8}$ - 850 $\frac{1}{2}$ -1750	$\frac{3}{4}$ "	41"	16 x 12	195	300	
FDAC	220-440-550	$\frac{1}{4}$ -1750 $\frac{1}{2}$ -3450	$\frac{3}{4}$ "	41"	16 x 12	195	300	

Standard equipment consists of one collet, as selected, up to 1" round or $\frac{3}{4}$ " hex; specify size desired.

Additional collets furnished on order, see price sheet.

All of above lathes may be had in single speeds and H.P.'s as follows; $\frac{1}{8}$ H.P. at 570 R.P.M.; $\frac{1}{4}$ H.P. at 1150 R.P.M.; $\frac{1}{2}$ H.P. at 1725 R.P.M.; $\frac{1}{2}$ H.P. at 3450 R.P.M., at no additional cost.



Type	A	B	C	D	E	F	G	H	J
P	11 1/4	7 3/8	3 3/8	7 5/8	1 3/4	1 1/2	7 1/2	2 1/4	1 x 5/8
PA	11 1/4	7 3/8	3 3/8	7 3/4	1 3/4	1 1/2	7 1/2	2 1/4	1 x 5/8
PHA	13 1/4	8 3/8	4 1/8	7 3/4	1 3/4	1 1/2	9 1/2	3 1/4	1 1/4 x 3/4
POA	16 1/4	10 1/8	6 1/8	10 1/8	1 1/2	1 1/2	6 1/2	3 1/4	1 1/4 x 1 1/2

Tool Post Grinder

Without Feed

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

TOOL POST GRINDER without feed is designed for use on lathes with compound rest and is suitable for grinding lathe centers, reamers, dies, rolls, etc. The shank is of steel and has a round end, permitting the motor to be set at any angle. A double row ball bearing provides for radial as well as thrust load on grinding wheel end of shaft, with a deep-groove single-row plate seal ball bearing on other end. Bearings are protected by labyrinth seals against the ingress of dust and grit. Extension mandrel is used for internal grinding. Standard lengths of internal grinding mandrels are 4 1/8" for 1/4 H.P. Grinders and 7" for 1/2 H.P. Grinders. Special length mandrels can be furnished on order. Tooth rest serves as an index for grinding cutters, reamers, etc.

Furnished complete with rubber-covered cable, attachment plug and all attachments as illustrated.

Tooth Rest and Extension Mandrel furnished with 1/4 and 1/2 H.P. Grinders only; furnished on order for 1 H.P. Grinder.

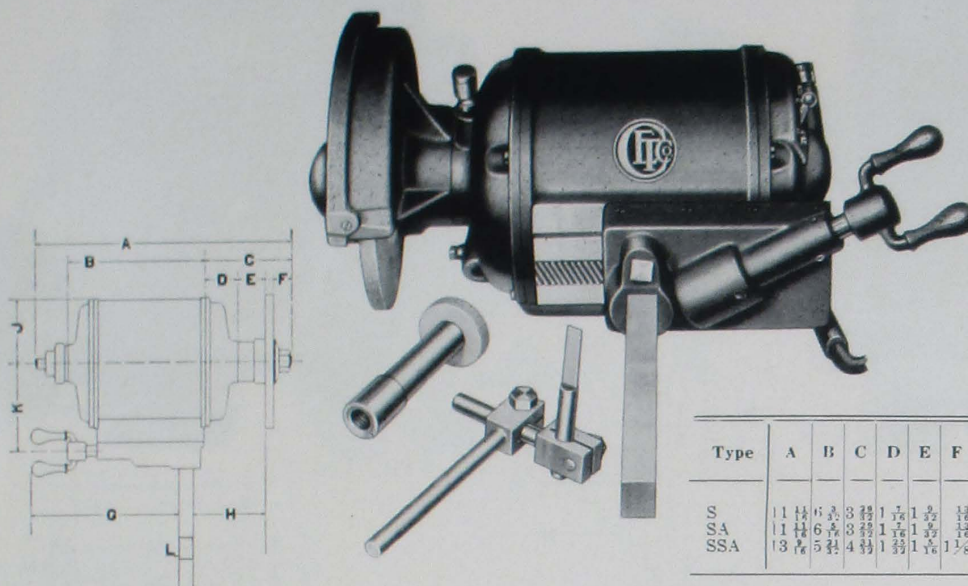
ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Size External Wheel	Size Internal Wheel	Diameter Shaft Bet. Flanges	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
PA	110-60-1	1/4	3450	6"x1 1/2"	1 1/2"x3/8"x3/8"	1 1/2"	35	45	FABLE FORBID FABRIC FORD BELT OLIVE
*PA	220-60-1	1/4	3450	6"x1 1/2"	1 1/2"x3/8"x3/8"	1 1/2"	35	45	
PHA	110-60-1	1/2	3450	8"x1"	2"x1 1/2"x1 1/2"	1 1/2"	45	65	
*PHA	220-60-1	1/2	3450	8"x1"	2"x1 1/2"x1 1/2"	1 1/2"	45	65	
POA	110-60-1	1	1750	10"x1"	Furnished on Order	3/4"	95	145	
*POA	220-60-1	1	1750	10"x1"	Furnished on Order	3/4"	95	145	

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

DIRECT CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Size External Wheel	Size Internal Wheel	Diameter Shaft Bet. Flanges	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
P	115	1/4	3650	6"x1 1/2"	1 1/2"x3/8"x3/8"	1 1/2"	22	32	ESSAY ESTEEM
P	230	1/4	3650	6"x1 1/2"	1 1/2"x3/8"x3/8"	1 1/2"	22	32	



Type	A	B	C	D	E	F	G	H		J	K	L
								Min.	Max.			
S	11 1/4	6 1/8	3 3/8	1 1/8	1 1/8	1 1/8	6 3/4	1 1/8	4	2 1/8	3 1/8	1 x 5/8
SA	11 1/4	6 1/8	3 3/8	1 1/8	1 1/8	1 1/8	6 3/4	1 1/8	4 3/4	2 1/8	3 1/8	1 x 5/8
SSA	13 1/8	5 1/4	4 1/4	1 1/8	1 1/8	1 1/8	8	1 1/8	5	3 1/8	5 1/2	1 1/4 x 3/4

Tool Post Grinder

With Horizontal Feed

TOOL POST GRINDER, with feed especially adapted for grinding lathe centers, cutters, reamers, rolls, dies, etc., can also be used in shaper or planer for surface grinding. The shank is of steel and has a round end, permitting the motor to be set at any angle. The motor has a 3-inch horizontal travel through the V-slide by means of a worm, and is fitted with a gib to take up the wear. A double row precision ball bearing provides for radial as well as thrust load on the grinding-wheel end of shaft, with a deep-groove, single-row plate seal ball bearing on the other end. Bearings are protected by labyrinth seals against the ingress of dust and grit. Extension mandrel is used for internal grinding. Standard lengths of internal grinding mandrels are 4 1/8" for 1/4 H.P. Grinders and 7" for 1/2 H.P. Grinders. Special length mandrels can be furnished on order. Tooth rest serves as an index for grinding cutters, reamers, etc.

Furnished complete with rubber-covered cable, attachment plug and all attachments as illustrated.

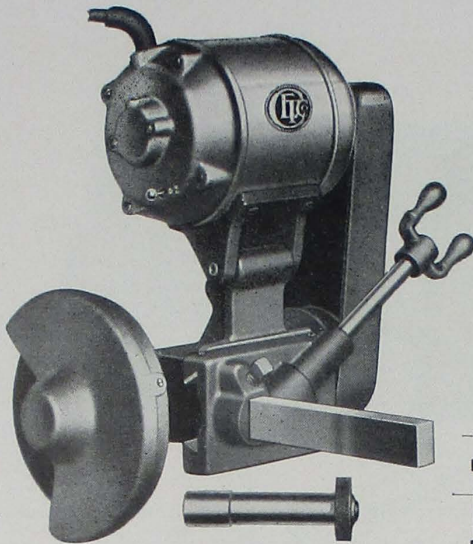
ALTERNATING CURRENT SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Size External Wheel	Size Internal Wheel	Diameter Shaft Bet. Flanges	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
SA	110-60-1	1/4	3450	6"x1 1/2"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	40	50	FACTOR FALTER FACOT FAMISH
*SA	220-60-1	1/4	3450	6"x1 1/2"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	40	50	
SSA	110-60-1	1/2	3450	8"x1"	2"x1 1/2"x1 1/2"	1 1/2"	55	75	
*SSA	220-60-1	1/2	3450	8"x1"	2"x1 1/2"x1 1/2"	1 1/2"	55	75	

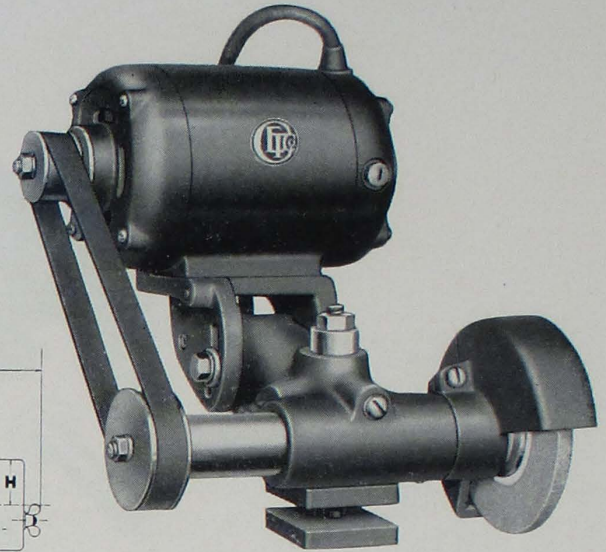
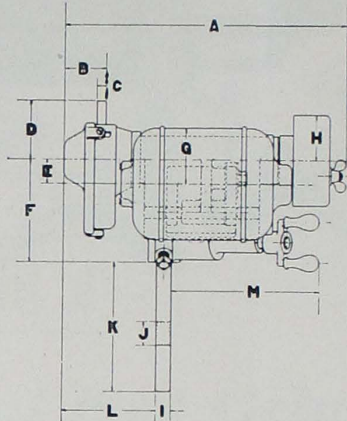
*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.
For other than 50 or 60 cycles, see price sheet.

DIRECT CURRENT SPECIFICATIONS

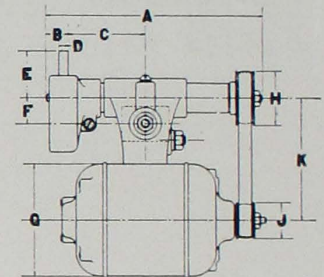
S	115	1/4	3650	6"x1 1/2"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	27	37	ETHER EULOGY
S	230	1/4	3650	6"x1 1/2"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	27	37	



TYPE FU



TYPE LBU



Type	A	B	C	D	E	F	G	H	I	J	K	L	M
FU	12"	1 3/4"	3/8"	2 1/2"	1 1/4"	4 3/8"	2 1/2"	1 1/8"	5/8"	1"	5 1/8"	2 7/8"	5 3/8"
LU	12"	1 3/4"	3/8"	2 1/2"	1 1/4"	3"	2 1/2"	1 1/8"	5/8"	1"	5 1/8"	6 1/8"	5 3/8"

Type	A	B	C	D	E	F	G	H	J	K
LBU	9 1/4"	1 1/8"	3 3/8"	3/8"	2	1 1/8"	4 1/8"	2 3/8"	1 1/2"	5 1/8"

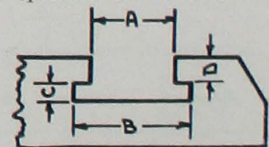
Ball Bearing Tool Post Grinders

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles, Single Phase.

TYPES FU and LU Belt Driven Tool Post Grinders, with and without feed respectively, especially adapted for grinding lathe centers, cutters, reamers, rolls, dies, etc.; can also be used in a shaper or planer for surface grinding. Offset spindle construction affords maximum clearance across the face of the grinding wheel. Pivotal mounting of motor on bracket provides for maintenance of proper belt tension. Type FU has a 3" horizontal travel through the V slide by means of a worm and is fitted with a gib to take up the wear. Internal grinding mandrel is 4 1/8" long.

TYPE LBU Belt-driven Grinder, for mounting on compound rest of 9" lathes and larger, will grind work within 2 1/2" of the maximum lathe swing. Grinder may be swivelled around the clamping bolt and provision is made for changing spindle height. Motor is adjustable, for maintaining proper belt tension. Distance from center of spindle to center of tool rest is 1 1/8". Minimum distance from the center of spindle to base is 1". Internal grinding mandrel is 4 1/8" long.

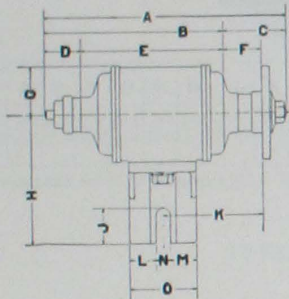
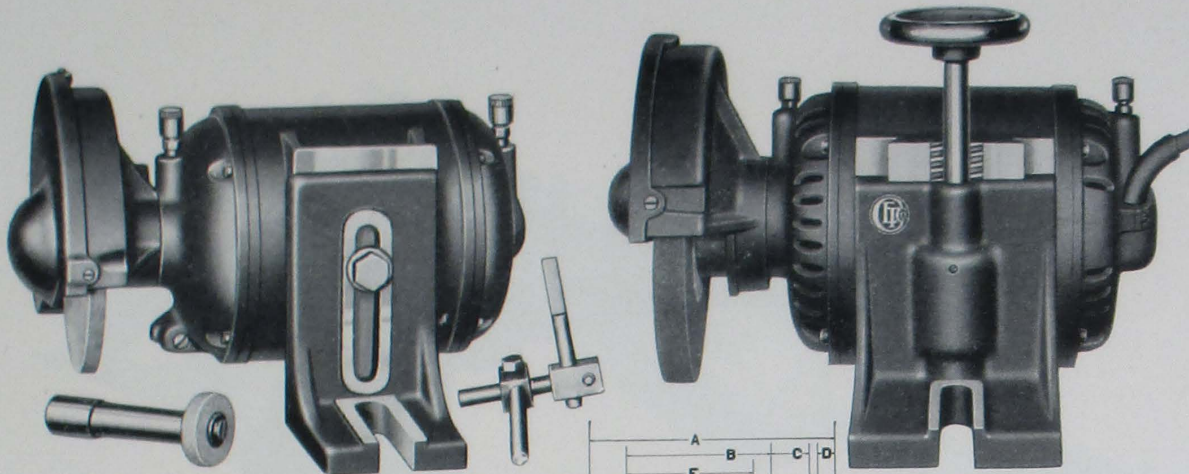
In ordering, give dimensions of slot in compound rest, so that proper adaptor may be furnished.



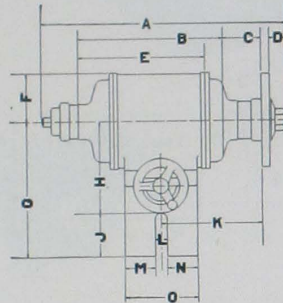
Furnished complete as illustrated with rubber-covered cable and attachment plug.

SPECIFICATIONS

Type	Volts	H. P.	Load Speed R. P. M.	Size External Wheel	Size Internal Wheel	Diameter Shaft Between Flanges	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
FU with feed	110	1/2	3450	5" x 3 3/8"	1 1/2" x 3 3/8" x 3 3/8"	1 1/2"	33	50	BACON
FU with feed	220	1/2	3450	5" x 3 3/8"	1 1/2" x 3 3/8" x 3 3/8"	1 1/2"	33	50	BEAR
LU without feed	110	1/2	3450	5" x 3 3/8"	1 1/2" x 3 3/8" x 3 3/8"	1 1/2"	29	46	BEAK
LU without feed	220	1/2	3450	5" x 3 3/8"	1 1/2" x 3 3/8" x 3 3/8"	1 1/2"	29	46	REAL
LBU	110	1/2	6000	4" x 3 3/8"	1 1/2" x 3 3/8" x 3 3/8"	1 1/2"	20	30	BAHHA
LBU	220	1/2	6000	4" x 3 3/8"	1 1/2" x 3 3/8" x 3 3/8"	1 1/2"	20	30	BEAU



Vertical
Adjustment



Vertical
Feed

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O
TPA	11 1/2	8 1/2	3	1 1/2	7 1/2	1 1/2	2 1/2	6 1/2	1 1/2	5 1/4	1 1/2	1 1/2	1 1/2	3 1/4

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O
TA	13 1/2	7 1/2	2	1 1/2	6 1/2	3 1/2	9 1/2	6 1/2	2 1/2	5 1/2	1 1/2	1 1/2	1 1/2	4 1/2
TTA	16 1/4	9 1/2	2 1/2	1 1/2	8 1/2	3 1/2	10 1/4	7 1/2	3 1/2	6 1/2	1 1/2	2 1/2	2 1/2	5 1/2
TVA	23 1/2	12 1/2	3 1/2	1 1/2	11 1/2	5 1/2	12 1/4	10 1/4	4 1/2	8 1/2	1 1/2	2 1/2	2 1/2	8 1/2
TFA	23 1/2	12 1/2	3 1/2	1 1/2	11 1/2	5 1/2	12 1/4	10 1/4	4 1/2	8 1/2	1 1/2	2 1/2	2 1/2	8 1/2

Angle Plate Grinders

Alternating Current Only

Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

ANGLE-PLATE GRINDERS, especially adapted for grinding spindles, rolls, journals, bushings, connecting rods and surfaces. For use on lathes, planers, shapers and boring mills. A double row precision ball bearing is provided on the grinding wheel end of shaft to take care of both radial as well as thrust loads, with a deep groove single-row plate seal ball bearing on the opposite end. The 1/4 H.P. Grinder has no vertical feed, but can be swiveled to any angle by means of the set-screw and slot in the angle plate. Grinders of 1/2 H.P. to 3 H.P. have vertical feed of 4 3/4" to 9 1/2", according to size.

Furnished complete as illustrated, with electric cable and attachment plug.

SPECIFICATIONS

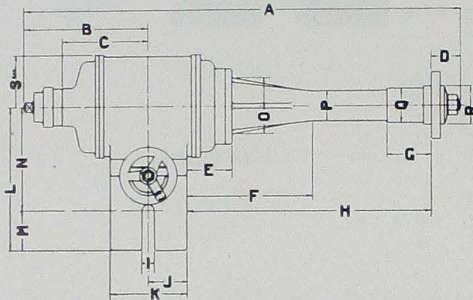
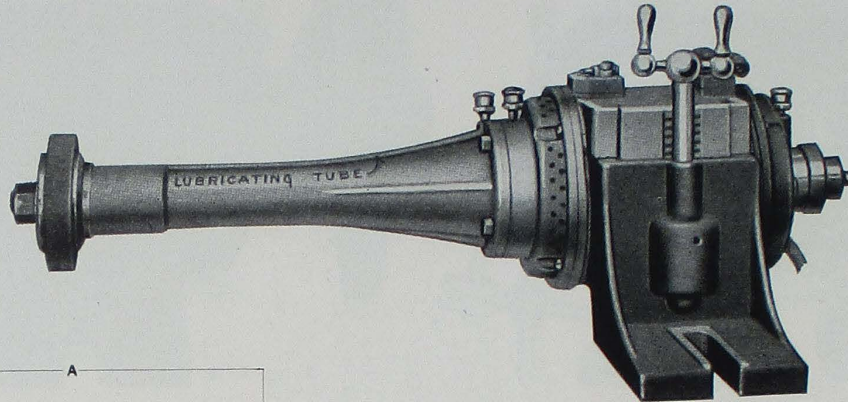
Type	Volts	H. P.	Load Speed R. P. M.	Size Wheel	Diameter Shaft Bet. Flanges	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
TPA	110-60-1	1/4	3450	6"x 1/2"	1/2"	32	50	CANAL
†TPA	220-60-1	1/4	3450	6"x 1/2"	1/2"	32	50	CABIN
TA	110-60-1	1/2	3450	8"x1"	3/8"	60	85	FORTIFY
†TA	220-60-1	1/2	3450	8"x1"	3/8"	60	85	FRAY
TTA	110-60-1	1	1750	10"x1"	3/4"	100	140	FOSIL
†TTA	220-60-1	1	1750	10"x1"	3/4"	100	140	FRESCO
*TVA	220-60-3	2	1750	12"x1 1/2"	1 1/4"	280	350	FRIGATE
*TVA	440-60-3	2	1750	12"x1 1/2"	1 1/4"	280	350	FARINA
*TFA	220-60-3	3	1750	14"x2"	1 1/4"	300	370	FROCK
*TFA	440-60-3	3	1750	14"x2"	1 1/4"	300	370	FELLOE

†Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

*Made in 2 or 3 phase only. If 2 phase or 550 volts is desired, mention after code word.

Speed for 25 cycles, 1500 R.P.M.

For other than 50 or 60 cycles, see price sheet.



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
VA	24 1/8	5 7/8	3 7/8	1 3/4	2 3/4	7 1/8	2 5/8	14 7/8	1 1/4	2 1/8	4 5/8	9 1/8	2 3/8	6 3/4	3 3/8	1 1/8	2 1/8	2 1/4	3 1/8
VVA	27 1/8	6 3/8	5 3/8	2 1/4	2 3/4	8 1/8	2 1/8	14 7/8	1 3/8	2 3/8	5 1/8	10 1/8	2 1/2	7 1/8	4 1/4	2 1/8	2 1/8	2 3/4	3 1/8

*Can be furnished with extensions giving 6" and 12" added lengths to these dimensions.

1/2 and 1 H. P.

Internal Grinders with Vertical Feed

Alternating Current Only

Order by Type — Give Volts, Cycles and Phase

INTERNAL GRINDERS which are recommended for finishing Air, Steam or Gas Engine Cylinders; also, for dies and cylindrical work of all kinds. These tools are of the same general design as the Parallel Grinders, shown on page 43, having a vertical adjustment of about 4 3/4", and are used in the same manner.

The standard size of extension spindle is 12", but shorter or longer furnished as required; prices on application. The extension is detachable at the body of the motor and the Grinder can be used for external work.

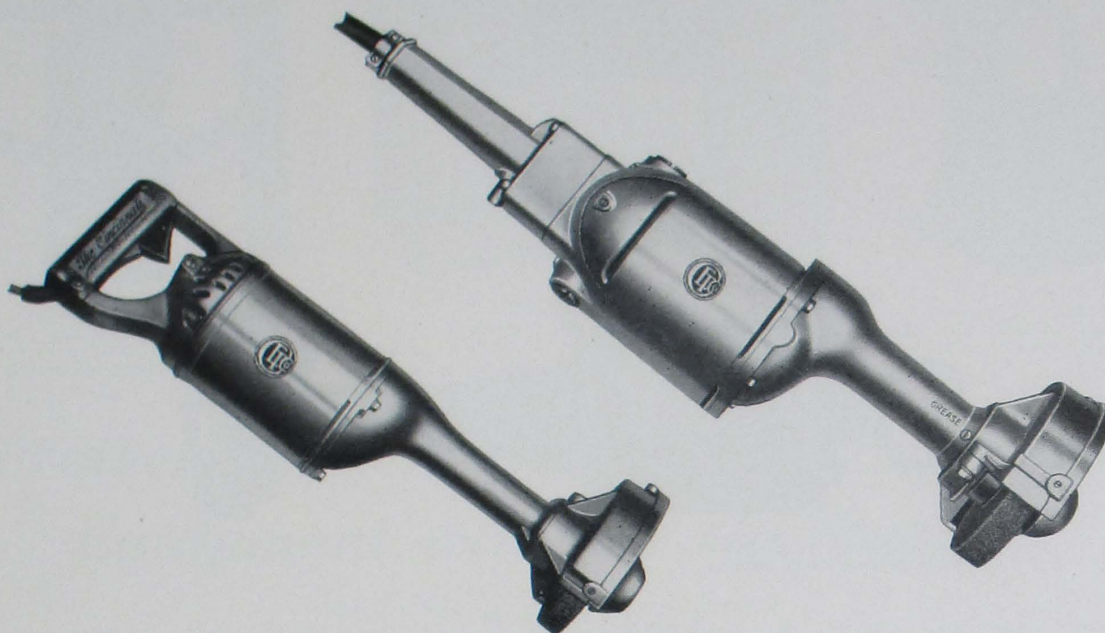
SPECIFICATIONS

Type	Volts	H. P.	Load Speed R. P. M.	Size Wheel	Diam. Shaft Between Flanges	Length Std. Ext.	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
VA	110-60-1	1/2	3450	+5" x 1"	5/8"	12"	60	95	FRUGAL FULLNESS FUDGE FUNNEL
*VA	220-60-1	1/2	3450	+5" x 1"	5/8"	12"	60	95	
VVA	110-60-1	1	3450	+6" x 1"	3/4"	12"	90	125	
*VVA	220-60-1	1	3450	+6" x 1"	3/4"	12"	90	125	

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

For other than 50 or 60 cycles, see price sheet.

*Smaller or larger diameter wheels can be furnished; minimum diameter wheels, 1/2 H.P., 2"; 1 H.P., 3 1/2".



TYPE AH 5-INCH

TYPE NSU 6-INCH

Portable Grinders

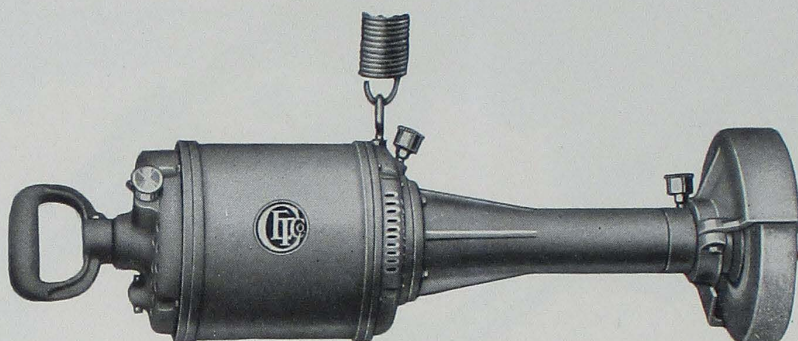
Universal Motor for Direct and Alternating Current, 25 to 60 Cycles, Single Phase.

LIGHT weight Ball Bearing Portable Grinders, especially adapted for grinding off gas and arc welds, also sanding, buffing and polishing of all kinds. They are unusually easy to handle and have unlimited application for portable grinding work within the limits of their rated capacities. The armature and grinding spindle are mounted on ball bearings, gears are of alloy steel, heat-treated and run in grease-tight compartment. Patented overrunning clutch construction (free wheeling) eliminates vibration, gear noise and chatter, ensuring quiet and long, trouble-free performance.

Furnished complete with Grinding Wheel, Adjustable Wheel Guard, and 10 feet all rubber cable and attachment plug.

SPECIFICATIONS

Type	Volt	Speed, R. P. M.	Size Wheel	Diameter Shaft Bet. Flanges	Motor Dia. and Length Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
AH	110	4600	5"x1"	$\frac{1}{2}$ "	4 $\frac{1}{2}$ "x20	17	31	GRAPE
AH	220	4600	5"x1"	$\frac{1}{2}$ "	4 $\frac{1}{2}$ "x20	17	31	GRAVEL
NSU	110	3600	6"x1"	$\frac{5}{8}$ "	5 $\frac{3}{8}$ "x22 $\frac{3}{4}$	27	42	GALAXY
NSU	220	3600	6"x1"	$\frac{5}{8}$ "	5 $\frac{3}{8}$ "x22 $\frac{3}{4}$	27	42	GALLIC



1 and 1½ H. P.

Portable Grinders

Alternating Current Only

Order by Type — Give Volts, Cycles and Phase

HEAVERY duty Portable Ball Bearing Grinders especially adapted for grinding rough castings, welded metal, or general grinding, buffing, and sanding of all kinds where production is speeded up by taking the tool to the work. Ball bearings are mounted in dust-proof housings, preventing any possibility of dirt or grit getting into the bearings.

Furnished complete with Grinding Wheel, Adjustable Wheel Guard, and 10 feet all rubber cable and attachment plug.

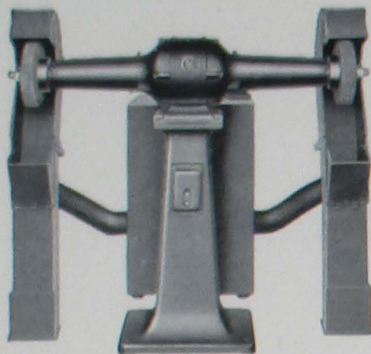
SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Size Wheel	Diameter Shaft Bet. Flanges	Motor Dia. and Length Overall	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
ASA	110-60-1	1	3400	8"x1½"	¾"	7¾"x34"	80	125	HONAGE HOPPER HOSTAGE HAIR
†ASA	220-60-1	1	3400	8"x1½"	¾"	7¾"x34"	80	125	
*ARA	220-60-3	1½	3400	8"x1½"	¾"	8"x35"	90	125	
*ARA	440-60-3	1½	3400	8"x1½"	¾"	8"x35"	90	125	

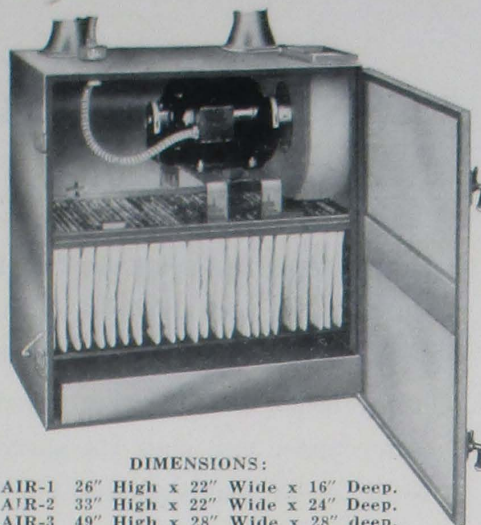
†Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

*Made in 2 or 3 phase only. If 2 phase is desired, mention after code word.

For other than 50 or 60 cycles, see price sheet.

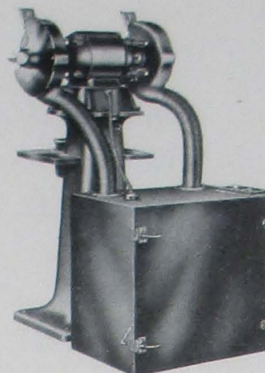


Buffer with AIR-2 Air Master, Adjustable Hoods and Piping. For hoods and piping prices, see price sheet.



DIMENSIONS:

AIR-1 26" High x 22" Wide x 16" Deep.
AIR-2 33" High x 22" Wide x 24" Deep.
AIR-3 49" High x 28" Wide x 28" Deep.
AIR-4 49" High x 28" Wide x 28" Deep.



Pedestal Grinder with AIR-1 Air Master and piping. For piping price, see price sheet.

Protect Workers Health and Expensive Equipment with the *Air Master*

Alternating Current — Direct Current

Order by Type, Current and Volts. If Alternating Current, give Cycles and Phase.

THE CINCINNATI "Air Master" is an efficient self-contained dust collector unit, urgently needed in every plant where grinding, polishing or buffing, of any kind, is done. Suitable for use with bench and pedestal grinders and buffers, tool and cutter grinders, surface grinders, lathe grinders, disc grinders, etc.

The dust and grit laden air is thoroughly filtered, through a series of closely woven fabric and steel wool filter bags and exhausted through an opening, in the top of the cabinet.

The heavier particles are directed downward, by means of a baffle plate, falling immediately into a large tray in the bottom of the cabinet. A foot lever is provided for shaking the lighter particles, from the filter bags, into the tray, which is removable for easy cleaning.

The fan motor is regularly connected into the same switch, which controls the grinder or buffer, starting and stopping simultaneously, with the machine. A metal partition prevents entrance of dust and grit into the motor compartment.

The motor, suction fan and filter bags are all completely enclosed in a compact, lacquer finished, insulated cabinet, mounted on rubber feet, ensuring quiet operation.

Type AIR-1 Air Master, with two 2" inlets, is recommended for use with 6", 8" and 10" Bench and Pedestal Grinders. When equipped with one 3" inlet, is ideal for small Tool and Cutter and Surface Grinders, also small Abrasive Cut-Off Machines.

Type AIR-2 Air Master, with two 3" inlets, will be found ideally suited for 12" and 14" Pedestal and Disc Grinders, as well as light buffing and polishing operations. When one 3" inlet is used, it is adaptable to the larger Tool and Cutter and Surface Grinders, as well as Abrasive Cut-Off Machines, where greater capacity than the Air-1 is desired.

Type AIR-3 Air Master, with two 4" inlets, is suggested for use with Pedestal and Disc Grinders up to 24" wheel size, also for production buffing installations. This unit can also be had with one 6" inlet, for use with single end disc grinders up to 30 inch, or for several smaller units.

Type AIR-4 Air Master is recommended for exceptional heavy duty applications or for installations requiring piping of greater length than normally used. For other or similar installations our engineering department will be glad to make recommendations for the proper application of this unit.

SPECIFICATIONS

Type	Motor H. P.	Motor R. P. M.	Adjustable Hood Size Recommended	Capacity C. F. M. *	Velocity Each Inlet F. P. M.	Grinding Wheel Size Recommended	Standard Inlets	Net Weight	Shipping Weight	Code Word
AIR 1	1/2	3450	None	235*	5400	Up to two 10"x1 1/2"	Two 2"	105	150	AMBLE
AIR 2	3/4	3450	Up to two 12"	531*	5400	Up to two 14"x3"	Two 3"	145	200	ACAPE
AIR 3	1 1/2	3450	Up to two 18"	930*	5300	Up to two 24"x4"	Two 4"	300	400	AIGRET
AIR 4	3	3450	Up to two 18"	1025*	6000	Up to two 30"x3"	Two 4"	340	455	AMAZE

*Total capacity, based on using two inlets, each inlet one half of total.

Can also be furnished for Direct Current and odd cycles Alternating Current; prices on application.

Piping, from exhaust outlets, on grinder wheel guards or buffer hoods, to AIR MASTER, furnished as extra, see price sheet.



TELEGRAPH CODE

DIAMOND.....	Wire price and delivery
RUBY.....	Wire best delivery
EMERALD.....	Enter order and ship via freight
PEARL.....	Enter order and ship via express
MOSAIC.....	Enter order and ship via Air Express
SAPPHIRE.....	Enter order and ship via parcel post
AMETHYST.....	Enter order and ship via parcel post special delivery
SARDONYX.....	Enter order and ship via Air Mail
CORAL.....	Enter order and wire delivery
MOONSTONE.....	Wire shipping date order
OPAL.....	When and how did you ship order?
QUARTZ.....	Trace shipment of order
CRYSTAL.....	Please hold order for further instructions
ONYX.....	Have you shipped order?
AQUAMARINE.....	Shipping your order via freight
TURQUOISE.....	Shipping your order via express
CAMEO.....	Shipping your order via parcel post
GARNET.....	Shipping your order via parcel post special delivery
JADE.....	Shipping your order via Air Mail

GUARANTEE

Every electric tool has been carefully inspected before shipment and we guarantee to correct any defect due to faulty material or workmanship. Our obligation assumed under this guarantee is limited to making replacement of any part or parts returned to us at our factory, or to our authorized service stations, transportation charges prepaid, which prove to our satisfaction upon examination to have been defective and have not been misused or carelessly handled. We reserve the right to decline responsibility where repairs have been made or attempted by others. This guarantee is in lieu of any other liability on our electric tools or parts. None other is authorized.

THE CINCINNATI ELECTRICAL TOOL CO.

DIVISION OF THE R. K. LE BLOND MACHINE TOOL CO.

CINCINNATI, OHIO — U. S. A.

The Cincinnati



THE CINCINNATI ELECTRICAL TOOL CO.

DIVISION OF THE R. K. LEBLOND MACHINE TOOL CO.

CINCINNATI 8, OHIO, U. S. A.

DISTRICT SALES OFFICES

TOLEDO	NEW YORK	ST. CATHERINES, ONT.
BOSTON	PITTSBURGH	BINGHAMTON, N. Y.
DETROIT	KANSAS CITY	PORTLAND, ORE.
MEMPHIS	MINNEAPOLIS	SAN FRANCISCO
ST. LOUIS	PHILADELPHIA	ORLANDO, FLA.
CHICAGO	NEWARK, N. J.	INDIANAPOLIS

The Cincinnati

MAY 1. 1947

Price Sheet No. 30D FOR Catalog No. 30

All prices are subject to change without notice.

THE CINCINNATI ELECTRICAL TOOL COMPANY

Division of The R. K. Le Blond Machine Tool Co.

CINCINNATI, OHIO

Page No.	ELECTRIC DRILLS	Class
2	Type UL 1/4" Light Duty.....	Discontinued
	Type ULS 1/4" Heavy Duty.....	\$40.00 A
	Type UAS 1/4" Heavy Duty.....	48.00 A
	Type UBS 1/4" Heavy Duty.....	52.00 A
	Type UK 3/8" Heavy Duty.....	53.00 A
3	Type UO 1/2" Standard Duty.....	59.00 A
4	Type UT 3/8" Heavy Duty.....	58.00 A
	Type UH 1/2" Heavy Duty.....	75.00 A
	Type UE 5/8" Heavy Duty.....	77.00 A
	Type UW 3/4" Heavy Duty.....	97.00 A
5	Type UD 2 sp. 1/2" Heavy Duty.....	82.00 A
	Type UED 2 sp. 5/8" Heavy Duty.....	86.00 A
6	Type UN 3/8" Heavy Duty.....	102.00 A
	Type UP 1" Heavy Duty.....	120.00 A
	Type UG 1 1/4" Heavy Duty.....	130.00 A

BENCH AND POST DRILL STANDS

7	No. 10 Bench Drill Stand.....	\$16.50 A
	No. 12 Bench Drill Stand.....	26.00 A
	No. 00 Bench Drill Stand.....	38.00 A
	No. 00W Post Drill Stand.....	43.00 A

TAPPING MACHINE

8	Type UJ.....	\$90.00 A
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SCREW DRIVERS AND NUT SETTERS

9	Type N1.....	\$63.00 A
	Type N2.....	75.00 A
	Type N3.....	98.00 A
	Reversing Switch.....	11.00 A

BITS, SOCKETS AND ADAPTORS

Bit with centering sleeve.....	\$ 2.00 A
Bit without centering sleeve.....	1.00 A
Adaptor for hexagon or square sockets.....	1.50 A

Square Sockets

Class	Class	Class	Class
1/8", \$1.40 A	5/8", \$1.70 A	3/8", \$1.30 A	1 1/8", \$1.40 A
3/8", 1.40 A	1 1/8", 1.70 A	1/2", 1.30 A	3/4", 1.40 A
1/2", 1.40 A	3/4", 1.70 A	3/4", 1.30 A	1 1/4", 1.40 A
3/4", 1.40 A	1 1/4", 2.00 A	1 1/4", 1.30 A	1 3/4", 1.70 A
1 1/4", 1.40 A	1 3/4", 2.00 A	1 3/4", 1.30 A	2", 1.70 A
		2", 1.30 A	

Hexagon Sockets

GRINDING STAND

10	For Types ULS, UAS, UBS and UK.....	\$ 3.00 A
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GRINDING WHEELS AND ARBOR

10	For Drills 1/4 to 3/8" with wheel 3" by 1/2".....	\$ 2.25 A
	For Drills 1/2" to 3/4" with wheel 4" x 1/2".....	3.25 A

CHUCKS WITHOUT ARBOR

(Not shown in catalog)

10	1/4".....	\$ 5.00 A	1/2".....	\$ 8.00 A
	3/8".....	5.75 A	5/8".....	9.00 A
	1/2".....	6.00 A	3/4".....	11.50 A

CHUCKS WITH MORSE TAPER ARBORS

10	1/2" Chuck with No. 2 or No. 3 Arbor.....	\$ 9.50 A
	3/8" Chuck with No. 2 or No. 3 Arbor.....	10.50 A
	1/4" Chuck with No. 2 or No. 3 Arbor.....	13.50 A

FLEXIBLE LIGHT ARMS*

10	For all Grinders, each.....	\$ 4.75 A
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Page No.	SHATTERPROOF EYE SHIELDS*	Class
10	Size 1—3 3/4" x 5 1/2", Pair.....	\$ 3.00 A
	Size 2—4 1/2" x 6 1/2", Pair.....	8.00 A

ILLUMINATED EYE SHIELDS*

10	For wheels up to 3" face, pair.....	12.00 A
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FEED SCREW

10	For Drills 1/2" to 1 1/4".....	\$ 7.00 A
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TWIST DRILL GRINDING ATTACHMENT*

10	For use on 6", 7", 8", 10" and 12" Grinders.....	\$23.75 A
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WIRE WHEEL BRUSHES

10	4" x 1".....	
	5" x 1".....	
	6" x 1/2".....	
	6" x 1".....	
	7" x 1".....	
	8" x 1".....	
	10" x 1".....	
	10" x 2".....	
	12" x 2".....	

In ordering wheels, always specify bore desired.

SEWED BLEACHED MUSLIN BUFFING WHEELS

10	4" x 1".....	
	5" x 1".....	
	6" x 1/2".....	
	6" x 1".....	
	7" x 1".....	
	8" x 1".....	
	10" x 1".....	

In ordering wheels, always specify bore desired.

GRINDING WHEELS*

10	1 1/2" x 3/8".....	
	2" x 1/2".....	
	3" x 1/2".....	
	4" x 3/8".....	
	4" x 1/2".....	
	5" x 3/8".....	
	5" x 3/4".....	
	5" x 1".....	
	6" x 3/8".....	
	6" x 1/2".....	
	6" x 3/4".....	
	6" x 1".....	
	7" x 3/4".....	
	7" x 1".....	
	7" x 1 1/4".....	
	8" x 3/4".....	
	8" x 1".....	
	8" x 1 1/2".....	
	10" x 1".....	
	10" x 1 1/4".....	
	10" x 1 1/2".....	
	12" x 1 1/2".....	
	12" x 2".....	
	14" x 2".....	
	14" x 2 1/2".....	
	14" x 3".....	
	18" x 3".....	
	20" x 3".....	
	24" x 3".....	
	24" x 4".....	
	30" x 3".....	

In ordering wheels, always specify bore desired.
For wheel sizes, other than listed above, prices on application.

*When installed, as extra, at factory, same product classification applies, as that of tool on which accessory is mounted.

PRICE SHEET—Continued

Page No.

Class

SANDING AND POLISHING MACHINES

11 Type LN\$63.00 A

Type BN80.00 A

Type HN92.00 A

ATTACHMENTS FOR SANDERS AND POLISHERS

11 Lamb's Wool Bonnet, 7".....\$1.70 9".....\$2.30 A

Felt Pads for Sanders, 7".....1.70 9".....2.30 A

Flexible Backing Pad, 7".....6.90 9".....9.00 A

Wire Cup Brush4.00 A

Wire Cup Brush Adaptor2.80 A

ABRASIVE DISCS

Grit Nos. 150-80 60-50 36-30 24 16

11 Size 7" PRICES ON APPLICATION

Size 9" PRICES ON APPLICATION

COAL DRILLS

12 Type LCU\$148.00 A

Type CH183.00 A

Type GCA170.00 A

PORTABLE ROUTER

13 Type BR\$166.00 A

ACCESSORIES FOR ROUTER

14 Stair Routing Template\$ 85.00 A

HIGH SPEED STEEL STRAIGHT ROUTER BITS

15 $\frac{3}{8}$ "\$3.45 D $\frac{1}{2}$ "6.50 D

$\frac{1}{2}$ "3.70 D $\frac{3}{8}$ "7.00 D

$\frac{5}{8}$ "4.50 D 1"7.50 D

$\frac{3}{4}$ "5.00 D $1\frac{1}{8}$ "8.00 D

$\frac{7}{8}$ "5.50 D $1\frac{1}{4}$ "8.50 D

$1\frac{1}{2}$ "6.00 D $1\frac{3}{8}$ "9.00 D

$1\frac{1}{2}$ "\$10.50 D

Special sizes to order, price on application.

For bits with $\frac{1}{2}$ " threaded shanks, for old model routers,
add \$1.50 each, list and mention in order.

$\frac{3}{4}$ " STAIR ROUTING BIT, 2° TAPER

15 With $\frac{1}{2}$ " straight round shank.....\$ 6.00 D

With $\frac{1}{2}$ " threaded shank7.50 D

INLAY BITS

15 $\frac{1}{8}$ " to $\frac{1}{4}$ " by sixteenths, each.....\$ 1.10 D

$\frac{1}{8}$ " to $\frac{1}{2}$ " by sixteenths, each.....1.50 D

GUIDE COLLARS

15 For $\frac{7}{8}$ ", 1", $1\frac{1}{8}$ " and $1\frac{1}{2}$ " tread stock, each....\$ 2.60 A

For $1\frac{1}{2}$ ", $1\frac{3}{4}$ " and 2" tread stock, each.....3.30 A

For use with $\frac{1}{4}$ " shank inlay bits.....3.75 A

SPLIT COLLETS

15 $\frac{1}{4}$ " or $\frac{1}{2}$ " sizes, each.....\$.65 A

GRINDING WHEEL

15 2" x $\frac{1}{4}$ " wheel and arbor.....\$ 2.00 A

GRINDING PENCILS

15 $\frac{1}{4}$ ", $\frac{3}{8}$ " $\frac{1}{2}$ " diameter, each.....\$.95 A

BENCH AND PEDESTAL GRINDERS

16 Type BEA (Bench) 6"Discontinued

Type BBA (Bench) 6"45.60 A

Type PEA (Pedestal) 6"Discontinued

Type PBA (Pedestal) 6"63.60 A

For other than 50 or 60 cycles, increase price 10%

17 Type BSA (Bench) 7"54.00 A

Type VHA (Bench) 8"78.00 A

Type PSA (Pedestal) 7"72.00 A

Type VPA (Pedestal) 8"96.00 A

For other than 50 or 60 cycles, increase price 10%

18 Type BHA (Bench) 8"117.50 A

Type FHA (Pedestal) 8"141.50 A

Type BLA (Bench) 10"129.50 A

Type FLA (Pedestal) 10"156.00 A

For other than 50 or 60 cycles, increase price 10%

Type BH (Bench) 8"123.50 A

Type FH (Pedestal) 8"147.50 A

Type BL (Bench) 10"134.00 A

Type FL (Pedestal) 10"160.50 A

19 Type BOA (Bench) 10"174.00 B

Type FOA (Pedestal) 10"210.00 B

For other than 50 or 60 cycles, increase price 10%

Type BO (Bench) 10"198.00 B

Type FO (Pedestal) 10"234.00 B

Page No.	Class
BENCH AND PEDESTAL GRINDERS	
20 Type BTA (Bench) 12"	\$246.00 C
Type FTA (Pedestal) 12"	258.00 C
Type VCA (Bench) 14"	312.00 C
Type FCA (Pedestal) 14"	324.00 C
For other than 50 or 60 cycles, increase price 20%	
For single phase, increase price 20%.	
HEAVY DUTY PEDESTAL GRINDERS	
21 Type HTA 12"	\$360.00 C
Type HCA 14"	414.00 C
Type HEA 14"	456.00 C
Type FFA 18"	588.00 C
For other than 50 or 60 cycles, increase price 10%	
Type HT 12"	486.00 C
Type HC 14"	570.00 C
Type HE 14"	708.00 C
Type FF 18"	871.00 C
For 12 and 14 Inch Bench Grinders, deduct \$12.00 from above prices.	
For boiler plate guards, increase prices, the equivalent of 15% of A.C. Pedestal Grinder prices.	
COMBINATION WET AND DRY GRINDERS	
22 Type WTA 2 H.P.	\$528.00 C
Type WGA 3 H.P.	540.00 C
For other than 50 or 60 cycles, increase price 10%	
Type WT 2 H.P.	\$648.00 C
Type WG 3 H.P.	666.00 C
Surface grinding attachment	54.00 C
WIDE TYPE PEDESTAL GRINDERS	
23 Type WAA 8"	\$192.00 A
Type WBA 10"	282.00 B
Type WSA 12"	396.00 C
Type WCA 14"	456.00 C
Type WFA 14"	510.00 C
For other than 50 or 60 cycles, increase price 10%	
Type WS 12"	522.00 C
Type WC 14"	612.00 C
Type WF 14"	762.00 C
For $\frac{1}{2}$ H.P. bench type, deduct \$24.00; for 1 H.P., \$36.00.	
For boiler plate guards, increase prices, the equivalent of 15% of A.C. Pedestal Grinder prices.	
COMB. PEDESTAL GRINDERS AND BUFFERS	
24 Type KHA 8"	\$156.00 A
Type KRA 10"	252.00 B
Type KTA 12"	378.00 C
Type KVA 14"	444.00 C
For other than 50 or 60 cycles, increase price 10%	
Type KT 12"	504.00 C
Type KV 14"	600.00 C
For $\frac{1}{2}$ H.P. bench type, deduct \$24.00; for 1 H.P., \$36.00.	
HEAVY DUTY PEDESTAL GRINDERS	
25 Type CFA 18"	\$780.00 C
Type HGA 20"	846.00 C
Type JSA 24"	1056.00 C
Type JTA 24"	1122.00 C
For other than 50 or 60 cycles, increase price 10%	
Type CF 18"	1080.00 C
Type HG 20"	1170.00 C
Type JS 24"	1428.00 C
Type JT 24"	1548.00 C
Wheel Dresser	35.00 C
10 or 12 inch bore flanges (set 4).....	60.00 C
For boiler plate guards, increase prices, the equivalent of 15% of A.C. Pedestal Grinder prices.	
THREE SPEED SNAGGING GRINDERS	
26 Type BAA 18"	\$1320.00 C
Type BCA 20"	1452.00 C
Type BGA 24"	1548.00 C
10 or 12 inch bore flanges (set 4).....	60.00 C
Direct Current and odd cycles Alternating Current, prices on application.	

PRICE SHEET—Continued

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VARIABLE SPEED SNAGGING GRINDERS

27	Type VCFA	18"	\$1728.00	D
	Type VBKA	24"	2034.00	D
	Type VBMA	30"	2070.00	D

COMBINATION SINGLE END DISC GRINDERS

28	Type FHAC	1/2 H.P.	\$306.00	B
	Type FOAC	1 H.P.	378.00	B
	Type HTAC	2 H.P.	498.00	C
	Type HCAC	3 H.P.	552.00	C
	Type HEAC	5 H.P.	690.00	C
	Type FSAC	7 1/2 H.P.	858.00	C
	For other than 50 or 60 cycles, increase price 10%			
	Type FOC	1 H.P.	354.00	B
	Type HTC	2 H.P.	624.00	C
	Type HCC	3 H.P.	708.00	C
	Type HEC	5 H.P.	942.00	C
	Type FSC	7 1/2 H.P.	1182.00	C

DOUBLE END DISC GRINDERS

29	Type HTAD	2 H.P.	\$552.00	C
	Type HCAD	3 H.P.	606.00	C
	Type HEAD	5 H.P.	732.00	C
	Type FSAD	7 1/2 H.P.	1002.00	C
	For other than 50 or 60 cycles, increase price 10%			
	Type HTD	2 H.P.	678.00	C
	Type HCD	3 H.P.	738.00	C
	Type HED	5 H.P.	1032.00	C
	Type FSD	7 1/2 H.P.	1350.00	C

PEDESTAL BUFFERS

30	Type DHA	1/2 H.P.	\$156.00	A
	Type DRA	1 H.P.	240.00	B
	For other than 50 or 60 cycles, increase price 10%			
	For 1/2 H.P. bench type, deduct \$24.00; for 1 H.P., \$36.00.			
31	Type DTA	2 H.P.	\$360.00	C
	Type DVA	3 H.P.	414.00	C
	Type DFA	5 H.P.	456.00	C
	Type DSA	7 1/2 H.P.	558.00	C
	For other than 50 or 60 cycles, increase price 10%			
	Type DT	2 H.P.	486.00	C
	Type DV	3 H.P.	570.00	C
	Type DF	5 H.P.	708.00	C
	Type DS	7 1/2 H.P.	810.00	C
	For bench type, deduct \$12.00 from above prices.			
32	Type DKA	2 H.P.	\$330.00	C
	Type DLA	3 H.P.	378.00	C
	Type DMA	5 H.P.	396.00	C
	For other than 50 or 60 cycles, increase price 10%			
	Type DK	2 H.P.	456.00	C
	Type DL	3 H.P.	534.00	C
	Type DM	5 H.P.	648.00	C
	For bench type, deduct \$12.00 from above prices.			

VEE BELT BUFFERS

33	Type COA	3 H.P.	Single Motor	\$540.00	C
	Type EOA	5 H.P.	Single Motor	564.00	C
	Type GOA	7 1/2 H.P.	Single Motor	636.00	C
	Type HOA	10 H.P.	Single Motor	702.00	C
	Type LOA	15 H.P.	Single Motor	852.00	C
	Type DOA	3 H.P.	Double Motor	822.00	C
	Type MOA	5 H.P.	Double Motor	876.00	C
	Type NOA	7 1/2 H.P.	Double Motor	948.00	C
	Type SOA	10 H.P.	Double Motor	1080.00	C

For "A" dimension 17", add \$60.00 to above prices.
For other than 50 or 60 cycles and Direct Current, prices on application.

HIGH SPEED CUT-OFF MACHINE

34-35	Type JCA	7 1/2 H.P.	\$ 960.00	D
	Type JC	7 1/2 H.P.	1230.00	D
	Angle Cutting Vise (if furnished with machine)		60.00	D

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WET ABRASIVE CUT-OFF MACHINE

36-37	Type JCAW	7 1/2 H.P.	\$1290.00	D
	Type JCW	7 1/2 H.P.	1560.00	D

SPEED LATHES

38	Type FBA	90 to 3400 R.P.M.	\$180.00	B
	For other than 50 or 60 cycles, increase price 10%			
	Type FB	90 to 3400 R.P.M.	180.00	B
	For bench type, deduct \$24.00			
39	FBAB	1/8 H.P. 560, 1/4 H.P. 1150 R.P.M.	\$312.00	C
	FCAB	3/8 H.P. 850, 1/2 H.P. 1750 R.P.M.	312.00	C
	FDAB	1/2 H.P. 1750, 3/4 H.P. 3450 R.P.M.	312.00	C
	FBAC	1/8 H.P. 560, 1/4 H.P. 1150 R.P.M.	300.00	C
	FCAC	3/8 H.P. 850, 1/2 H.P. 1750 R.P.M.	300.00	C
	FDAC	1/2 H.P. 1750, 3/4 H.P. 3450 R.P.M.	300.00	C
	For bench type, deduct \$24.00.			

Round collets, up to 1", fractional sizes, each.....\$ 5.55 D
Round collets, up to 1", decimal sizes, each..... 5.85 D
Hex. collets, up to 3/8", fractional sizes, each..... 7.90 D

TOOL POST GRINDERS

40	Type PA	1/4 H.P.	\$ 90.00	B
	Type PHA	1/2 H.P.	129.00	B
	Type POA	1 H.P.	205.00	B
	For other than 50 or 60 cycles, increase price 10%			
	Type P	1/4 H.P.	109.00	B
41	Type SA	1/4 H.P.	103.00	B
	Type SSA	1/2 H.P.	140.50	B
	For other than 50 or 60 cycles, increase price 10%			
	Type S	1/4 H.P.	122.00	B
42	Type FU	3/8 H.P.	123.00	B
	Type LU	1/2 H.P.	111.00	B
	Type LBU	3/4 H.P.	111.00	B

ANGLE PLATE GRINDERS

43	Type TPA	1/4 H.P.	\$ 99.50	B
	Type TA	1/2 H.P.	146.50	B
	Type TTA	1 H.P.	205.00	B
	Type TVA	2 H.P.	306.50	C
	Type TFA	3 H.P.	392.00	C
	For other than 50 or 60 cycles, increase price 10%			

INTERNAL GRINDERS — VERTICAL FEED

44	Type VA	1/2 H.P.	\$ 193.50	B
	Type VVA	1 H.P.	252.00	B
	For other than 50 or 60 cycles, increase price 10%			

PORTABLE GRINDERS

45	Type AH	5"	\$ 86.00	A
	Type NSU	6"	108.00	A
46	Type ASA	1 H.P.	180.00	B
	Type ARA	1 1/2 H.P.	225.00	B
	For other than 50 or 60 cycles, increase price 10%			

AIR MASTERS

47	Type AIR 1—	1/2 H.P.	\$ 150.00	C
	Type AIR 2—	3/4 H.P.	175.00	C
	Type AIR 3—	1 1/2 H.P.	295.00	C
	Type AIR 4—	3 H.P.	325.00	C

Piping, per set (except cabinet type machines) 12.00 Net
Adjustable hood, each..... 24.00 C

In ordering hoods, give diameter and face of buffing wheels to be used, also height from floor to center of buffing spindle.